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16. ABSTRACT

The general objective of this study was to determine the yearly performance of a seven cell facultative wastewater lagoon system and to compare this performance with existing state and federal discharge standards and with the criteria used to design the lagoon system and to evaluate existing design equations.

Twenty-four hour composite samples or grab samples for certain analyses were collected for four 30 consecutive day periods (once each season) and twice a week in the periods between for 13 months and tested for chemical and physical parameters. Samples were taken from the influent at the end of each cell, and from the final effluent.

The data of tests for total and soluble $BOD_5$, COD, suspended solids, nitrogen forms, total phosphorus, total algal count by genera, fecal coliform bacteria, fecal streptococci bacteria and total coliform bacteria, influent and effluent daily flow rates, air temperature, wind, evaporation, and solar radiation are reported with a discussion of the results in relation to the discharge standards and design of lagoon systems.

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Contract No. 68-03-2060

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# FOREWORD

The Environmental Protection Agency was created because of increasing public and government concern about the dangers of pollution to the health and welfare of the American people. Noxious air, foul water, and spoiled land are tragic testimony to the deterioration of our natural environment. The complexity of that environment and the interplay between its components require a concentrated and integrated attack on the problem.

Research and development is that necessary first step in problem solution and it involves defining the problem, measuring its impact, and searching for solutions. The Municipal Environmental Research Laboratory develops new and improved technology and systems for the prevention, treatment, and management of wastewater and solid and hazardous waste pollutant discharges from municipal and community sources, for the preservation and treatment of public drinking water supplies, and to minimize the adverse economic, social, health, and aesthetic effects of pollution. This publication is one of the products of that research; a most vital communications link between the researcher and the user community.

As part of these activities, this case history report was prepared to make available to the sanitary engineering community a full year of operating and measured performance data for a wastewater treatment lagoon system.

Francis T. Mayo, Director
Municipal Environmental Research
Laboratory

# ABSTRACT

Wastewater stabilization lagoons have provided acceptable, low cost, efficient wastewater treatment for nearly 5,000 communities in the United States. However, with the implementation of the Water Pollution Control Amendments of 1972 (PL 92-500) stringent secondary discharge standards have been established. It is possible that waste stabilization lagoon systems may not be capable of satisfying these new discharge requirements. At present, very little data exist which adequately describe the yearly performance of waste stabilization lagoon systems.

The general objective of this study was to determine the yearly performance of a seven cell facultative waste stabilization lagoon system treating domestic wastewater from a community with a population of 471 persons and to compare this actual performance with existing federal discharge standards, State of Utah discharge standards, criteria used to design the lagoon system and to evaluate existing design equations.

Twenty-four hour composite samples of the raw sewage influent to the lagoon system and the effluent from each pond in the system were collected twice each week for approximately 13 months. In addition, these same samples were collected for four 30 consecutive day periods (once each season) during the same 13 month period. The samples were analyzed for biochemical oxygen demand ($BOD_5$), soluble biochemical oxygen demand, suspended solids, volatile suspended solids, chemical oxygen demand, soluble chemical oxygen demand, alkalinity, ammonia-nitrogen, nitrite-nitrogen, nitrate-nitrogen, total Kjeldahl nitrogen, total phosphorus, and total algal count by genera. Temperature, pH, and dissolved oxygen were measured in situ or on grab samples. Fecal coliform bacteria, fecal streptococci bacteria, and total coliform bacteria were monitored with grab samples. In addition, influent and effluent daily flowrates, air temperature, wind, evaporation, and solar radiation were recorded.

The results indicate that the system did not exceed the federal biochemical oxygen demand requirement of 30.0 mg/l at any time during the study. However, it failed to meet the 85 percent biochemical oxygen demand ($BOD_5$) removal requirement 4 of the 13 months studied. The system also satisfied the State of Utah biochemical oxygen demand requirement of less than 10.0 mg/l 8 of the 13 months studied. The system was able to meet the federal suspended solids requirement of less than 30.0 mg/l 10 of the 13 months studied. It also satisfied the State of Utah suspended solids discharge requirement of less than 10 mg/l 8 of the 13 months studied. However, it failed to meet the federal 85 percent suspended solids removal requirement 5 of the 13 months studied. The system never exceeded the federal or State of Utah fecal coliform bacteria discharge standard.

In general, the loading on the lagoon exceeded the criteria used to design the system. Application of the data to existing design equations indicated that the equations were not adequate to predict overall performance.

This study was conducted in fulfillment of Environmental Protection Agency Contract Number 68-03-2060.

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# LIST OF ABBREVIATIONS

ac = acre
Alk = alkalinity as $CaCO_3$
$BOD_5$ = five day biochemical oxygen demand
COD = chemical oxygen demand
DO = dissolved oxygen concentration
FC = fecal coliform bacteria
gal = gallon
ha = hectare
kg = kilogram
l = liter
mg = milligram
mg/l = milligram per liter
$NH_3$-N = ammonia-nitrogen
$NO_2$-N = nitrite-nitrogen
$NO_3$-N = nitrate-nitrogen
SCOD = soluble chemical oxygen demand
$SBOD_5$ = soluble five day biochemical oxygen demand
TKN = total Kjeldahl nitrogen
TP = total phosphorus

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The cooperation and assistance of the Mayor of Corinne, Utah, Mr. Donald Miller, is greatly appreciated. Assistance in operating the samplers, lagoon system, and flow records was provided by the maintenance personnel of Corinne City, Utah.

The assistance of Hansen and Associates, Inc., Brigham City, Utah, in evaluating the design of the system is greatly appreciated.

Total coliform bacteria analysis for this study was provided by the State of Utah, Division of Health.

This work was performed under a U.S. Environmental Protection Agency Contract Number 68-03-2060.

# SECTION 1

# INTRODUCTION

## NATURE OF THE PROBLEM

The terms lagoon, stabilization pond, oxidation pond, and waste stabilization pond are often used interchangeably to define a shallow, man-made basin designed for the natural biological treatment of wastewater. To avoid confusion, the terms waste stabilization pond or waste stabilization lagoon will be used in this report to include the above described facility and to define any artificial impoundment designed specifically for the natural biological treatment of wastewater.

Waste stabilization ponds have been employed for treatment of wastewater for over 3000 years (Allum and Carl, 1970). Although the exact date of birth of the modern waste stabilization pond has been lost in antiquity, the first recorded construction of a waste stabilization pond system in the United States was at San Antonio, Texas in 1901 (Davis, 1964). Today, over 5000 communities in the United States utilize waste stabilization ponds for treatment of wastewaters. However, reliable yearly lagoon performance data are generally lacking.

The lack of long term lagoon performance data has been accentuated with the implementation of the Federal Secondary Treatment Standards resulting from the enactment of the Federal Water Pollution Control Amendments Act of 1972 (PL 92-500). The ability of a well designed waste stabilization pond system to meet these stringent effluent discharge requirements has been seriously questioned. Also, the criteria employed in the design of waste stabilization ponds has not been adequately validated due to the lack of lagoon performance data.

Therefore, it is imperative that the yearly performance of a well designed and operated waste stabilization pond system be determined.

## OBJECTIVES

### General Objective

The general objective of this study was to develop and evaluate reliable year-round performance data for a well designed and operated facultative municipal wastewater stabilization lagoon system. The system was evaluated with respect to the criteria employed during the design and construction of the facility, the Federal Water Pollution Control Amendments Act of 1972 (PL 92-500) and the Secondary Treatment Standards for the State of Utah.

## Special Objectives

To accomplish the above general objective, the following specific objectives were achieved with a small seven cell series facultative municipal waste stabilization lagoon system:

1. Collect water quality samples at specified sample points for 13 consecutive months and for 30 consecutive days, four times during the 13 month period on a quarterly basis.

2. Analyze the collected water quality samples for: dissolved oxygen, pH, temperature, alkalinity, total biochemical oxygen demand ($BOD_5$), soluble biochemical oxygen demand, suspended solids, total coliform bacteria, fecal coliform bacteria, fecal streptococci, and algal cell counts by genera.

3. Provide samples to the EPA Advance Waste Treatment Research Laboratory, Cincinnati, Ohio for analysis of total and soluble chemical oxygen demand, total phosphorus, total Kjeldahl nitrogen (TKN), ammonia nitrogen, nitrite nitrogen, and nitrate nitrogen.

4. Obtain climatological data (light intensity, air temperature, and precipitation) for the lagoon site from the U.S. Weather Bureau.

5. Analyze and evaluate the performance of the lagoon system (i) with respect to criteria employed in the system design, (ii) with respect to the Water Pollution Control Amendments Act of 1972 (PL 92-500) and (iii) with respect to effluent discharge standards established by the State of Utah.

6. Determine the optimum number of lagoon cells required in series to achieve satisfactory wastewater treatment for the study system.

## Scope

The results presented in this report were obtained from data collected from a facultative municipal waste stabilization lagoon system located in the intermountain area of the United States. Although the data obtained from this study are representative of a well designed and operated lagoon system, extrapolation of these results to other geographical areas and climatic conditions should be performed with caution.

## Editorial Note

The definitions of secondary treatment for federal regulation of municipal wastewater treatment plant effluents has been or is being modified. The Federal Register Vol. 41, No. 144, Monday, July 26, 1976, pp. 30786-30789, contains amendments pertaining to effluent values for pH and deletion of fecal coliform bacteria limitations from the definition of secondary treatment. The Federal Register Vol. 41, No. 172, Thursday, September 2, 1976, contains proposed changes in the suspended solids requirements for small municipal lagoon systems serving as the sole process for secondary treatment of wastewaters.

# SECTION 2

## CONCLUSIONS

Based on the results of 13 months of the performance of the Corinne Waste Stabilization Lagoon System, Corinne, Utah, the following conclusions can be made.

1. The yearly average daily hydraulic influent flowrate of 693,724 liters/day (183,282 gallons/day) exceeded the design hydraulic flowrate by 2.62 times.

2. The actual hydraulic residence time in the system was 88.3 days. This was 49.1 percent less than the 180 day hydraulic residence time required by the State of Utah.

3. The monthly influent flowrate to the system reached a maximum of 1,029,645 liters/day (272,033 gallons/day) in October and a minimum of 253,667 liters/day (67,019 gallons/day) in December due to high infiltration-inflow into the Corinne City sewage collection system.

4. The organic strength of the raw influent sewage was less than a typical domestic sewage. The monthly average influent biochemical oxygen demand ($BOD_5$) concentration to the system ranged from 40.26 mg/l to 139.93 mg/l with a yearly mean concentration of 74.62 mg/l.

5. On a yearly basis the system was not organically overloaded. However, the organic load did exceed the design organic load of 36.2 kg $BOD_5$/ha/day (29.9 lbs $BOD_5$/acre/day) several times during the study. The average monthly organic loading on the primary cell ranged from 15.1 kg $BOD_5$/ha/day (13.4 lbs $BOD_5$/acre/day) to 60.2 kg $BOD_5$/ha/day (53.6 lbs $BOD_5$/acre/day) with a yearly average of 33.6 kg $BOD_5$/ha/day (29.9 lbs $BOD_5$/acre/day).

6. The final effluent biochemical oxygen demand of the system never exceeded the Federal Secondary Treatment Standards. The monthly average final effluent biochemical oxygen demand ($BOD_5$) concentration ranged from 1.40 mg/l in August to 26.55 mg/l in April with a yearly average concentration of 8.91 mg/l.

7. The ability of the system to satisfy the 85 percent biochemical oxygen demand ($BOD_5$) removal requirement of the Federal Secondary Treatment Standards appears to be more a function of the influent $BOD_5$ concentration rather than the effluent $BOD_5$ concentration. The system failed to satisfy the 85 percent biochemical oxygen demand ($BOD_5$) removal requirement of the Federal Secondary Treatment Standards four of the 13 months studied.

8. The final effluent biochemical oxygen demand ($BOD_5$) concentration satisfied the State of Utah requirement of less than 10.0 mg/l, ten of the 13 months studied.

9. Statistical analysis indicated that no significant (95 percent level) biochemical oxygen demand ($BOD_5$) removal occurred beyond the fifth pond in the seven pond series.

10. Final effluent soluble biochemical oxygen demand ($SBOD_5$) concentrations were extremely small with the monthly average range of 1.19 mg/l to 4.69 mg/l.

11. Statistical analysis indicated that no significant (95 percent level) reduction in soluble biochemical oxygen demand occurred beyond the fourth pond in the seven pond series.

12. The raw sewage influent suspended solids concentration was less than that expected for a typical domestic sewage. Monthly average raw sewage influent suspended solids concentrations ranged from 39.12 mg/l in August to 119.76 mg/l in January with a yearly average concentration of 71.3 mg/l.

13. The final effluent monthly average suspended solids concentration of the system satisfied the Federal Secondary Treatment Standards ten of the 13 months studied. The monthly average final effluent suspended solids concentration ranged from 2.53 mg/l in September to 179.24 mg/l in April with a yearly average concentration of 33.69 mg/l.

14. The ability of the system to satisfy the 85 percent removal of suspended solids requirement of the Federal Secondary Treatment Standards appears to be more a function of the influent suspended solids concentration rather than the effluent suspended solids concentration. The system exceeded this requirement five of the 13 months studied.

15. The final effluent monthly average suspended solids concentration satisfied the State of Utah effluent suspended solids discharge requirement of less than 10.0 mg/l eight of the 13 months studied.

16. Statistical analysis indicated that no significant (95 percent level) removal of suspended solids occurred beyond the fifth pond in the seven pond series.

17. Volatile suspended solids performance of the system was similar to the suspended solids performance. Final effluent monthly average volatile suspended solids concentrations ranged from 1.01 mg/l to 51.79 mg/l with a yearly average concentration of 12.45 mg/l.

18. Statistical analysis indicated that no significant (95 percent level) removal of volatile suspended solids occurred beyond the fifth pond in the seven pond series.

19. Chemical oxygen demand (COD) performance of the system was similar to the biochemical oxygen demand ($BOD_5$) performance. Monthly average final effluent concentrations ranged from 51.14 mg/l in October to 97.81 mg/l in April with a yearly average concentration of 67.19 mg/l.

20. Statistical analysis indicated that no significant (95 percent level) chemical oxygen demand removal occurred beyond the sixth pond in the seven pond series.

21. Soluble chemical oxygen demand performance was similar to the chemical oxygen demand performance. Monthly average final effluent soluble chemical oxygen demand concentrations ranged from 36.0 mg/l in April to 57.0 mg/l in June with a yearly average concentration of 46.34 mg/l.

22. Statistical analysis indicated that no significant (95 percent level) soluble chemical oxygen demand removal occurred beyond the first pond in the seven pond series.

23. Measurements of temperature, pH, and dissolved oxygen are not representative of the actual system because they were obtained in situ or on grab samples. However, based on the data collected the final effluent monthly average pH value satisfied the Federal Secondary Treatment Standards two of the 13 months studied. Monthly average pH values ranged from 8.32 to 10.13. The system also satisfied the State of Utah discharge pH standard two of the 13 months studied.

24. The alkalinity of the system was relatively constant throughout the study. Final effluent monthly average alkalinity concentrations ranged from 461.60 mg/l as $CaCO_3$ to 632.50 mg/l as $CaCO_3$.

25. The lagoon system removed a substantial amount of total phosphorus from the raw sewage. Monthly average final effluent total phosphorus concentrations ranged from 0.74 mg/l in September to 3.09 mg/l in January with a yearly average concentration of 2.06 mg/l.

26. Statistical analysis indicated that significant (95 percent level) total phosphorus removal continued through all seven ponds in the system.

27. The system was very effective in the removal or conversion of ammonia-nitrogen ($NH_3$-N). Final effluent monthly average ammonia-nitrogen concentrations ranged from 0.1 mg/l to 1.2 mg/l with a yearly average concentration of 0.25 mg/l. Essentially, most of the ammonia-nitrogen was removed in the primary pond.

28. Very little nitrite-nitrogen ($NO_2$-N) was present in the system. Monthly average final effluent $NO_2$-N concentrations ranged from 0.01 mg/l to 0.09 mg/l with a yearly average concentration of 0.02 mg/l.

29. Very little nitrate-nitrogen ($NO_3$-N) was present in the system. Monthly average final effluent nitrate-nitrogen ($NO_3$-N) concentrations ranged from 0.01 mg/l to 0.08 mg/l with a yearly average concentration of 0.03 mg/l.

30. Total Kjeldahl nitrogen (TKN) concentrations in the system were relatively small. Final effluent monthly average TKN concentrations ranged from 1.40 mg/l in November to 5.92 mg/l in April with a yearly average concentration of 2.95 mg/l.

31. Statistical analysis indicated no significant (95 percent level) removal of Total Kjeldahl nitrogen occurred beyond the sixth pond in the seven pond series.

32. Blue-green algal genera predominated in the system. Total algal counts indicated the peak algal bloom occurred during April and May. Very little algae were found in the final effluent during June, July, and August even though a substantial algal bloom occurred in the first three ponds of the system.

33. The system was very efficient at removing fecal coliform bacteria even though disinfection was not practiced. At no time did the final effluent exceed the Federal Secondary Treatment Standards or the State of Utah discharge requirement for fecal coliform bacteria. Although fecal coliform bacteria removal continued throughout the system, the monthly average effluent fecal coliform bacteria concentration of the fourth pond never exceeded 200 colonies/100 ml.

34. Fecal streptococci bacteria removal was similar to the removal of fecal coliform bacteria.

35. None of the design equations evaluated using the data collected from the Corinne Waste Stabilization Lagoon System adequately described the system.

Editorial note: Throughout this report values given for BOD, COD, and SS should be read as rounded whole numbers.

# SECTION 3

# RECOMMENDATIONS

Based on the results of a 13 month study of a seven cell facultative lagoon system, the following recommendations are proposed.

1. Operational procedures for wastewater lagoon systems should be developed to enable the lagoon system to meet federal and state discharge requirements.
2. Current design criteria, design procedures, and design equations be evaluated and that design methods and procedures be developed to reflect various geographic and climatic conditions.
3. An intensive study of the biological mechanisms in wastewater lagoon systems be undertaken.
4. Studies be initiated to clearly demonstrate the optimum number of ponds required in series in a waste stabilization lagoon system to satisfy existing discharge requirements.

# SECTION 4

# LITERATURE REVIEW

## GENERAL

Man has long used wastewater stabilization basin systems as a means of treating his wastewaters. Porges et al. (1963, p. 1) defined such basin systems by referring to wastewater stabilization basins as ‘‘basins, natural or artificial, designed or used to treat organic waste by natural biological, biochemical, and physical processes.’’

History does not record the initial usage of ponds for treating wastewater. Reynolds (1971) refers to works by several authors who both traced and speculated on the use of lagoon treatment as early as 800 B.C. Porges et al. (1963) also suggested that ancient moats of medieval castles probably served inadvertently as stabilization basins for all the waste which found its way into the moat.

It was not until 1949 in Madock, N.D., (Barsom et al. 1970), that basins were purposely designed and constructed in the United States for the treatment of wastewater. This marked the beginning of an era which has seen the usage of ponds for wastewater treatment multiply many fold (Vennes, 1970).

No matter what point in the history of lagoon treatment is investigated, it is obvious that the objectives have always been the same, i.e., the disposing of objectionable matter by an inexpensive, nonoffensive method. Vennes (1970, p. 366) in addressing the Second International Symposium For Waste Treatment Lagoons, more clearly defined the objectives of lagoon systems. He stated, ‘‘It is axiomatic that the goals of waste treatment are concerned with two processes; namely, 1) removal of (or greatly reduced) infectious agents, and 2) transform utilizable inorganic and organic substrates into stable end products.’’ So it is today that each year brings an increase in the number of lagoon systems being employed to treat wastewater, as well as an increase in the scientific knowledge available for use in the design, construction, and operation of such systems.

Several treatment basin types have been established and documented in the literature. These basins are as follows: anaerobic lagoons or those basins providing an environment totally devoid of oxygen; aerobic lagoons or those basins having oxygen throughout their environment; aerated lagoons or those basins mechanically supplied with addition air; and facultative lagoons or those basins combining both an oxygenated environment near the surface of the lagoon and an oxygenless habitat in the lower areas of the basin. Although these several types of basins are detailed by many authors, including Marais

(1970), Oswald (1975), and McKinney (1975), this paper is primarily concerned with those basins of the facultative type. Figure 1 from Marais (1970) indicates the basic complex interactions of the bacterial and algal worlds which combine to form the major components of a lagoon treatment process.

Wastewater entering a lagoon treatment system has a given load of organic and inorganic materials which are to be stabilized through the treatment process. A portion of this load will be soluble, in liquid form, and the remaining part solid. Of the solid portion, the majority will settle to the bottom of the basin thus becoming part of the bottom sludge eventually to be treated by anaerobic fermentation (McKinney, 1975). In recent years investigators have become more aware of the significant role played by the bottom sludge in stabilizing the organic and inorganic wastes through the fermentation process (Marais, 1970). Although the anaerobic process will proceed only under very specific environmental conditions it can account for up to 50 percent of the treatment process (Marais, 1970).

In regions of the basin near the water surface, there exists a symbiotic relationship between the algae and the bacteria present in the pond (McKinney, 1975). Figure 1 indicates the basic cycle of action which transpires as bacteria breaks down the organic and inorganic wastes found in the water thus providing nutrients and carbon dioxide for algal growth. The algae, in return, use sunlight energy and the materials provided by the bacteria to produce oxygen and organic waste for use by the bacteria in a further continuation of the stabilization process (Marais, 1970). In the final result, the organic and inorganic materials originally present in the wastewater undergo sufficient change making them no longer objectionable or detrimental to the environment.

Concurrent with the stabilization process is a die-off of the infectious agents present in the wastewater. Through the natural process of bacterial mortality and predation, both the indicator bacteria and the accompanying infectious agents are removed from the wastewater (Malone et al., 1969). Much effort has been invested by many researchers during recent years in striving to gain complete understanding of the die-off process. These authors indicate a dependence of the die-off process on: pond water temperature, length of detention in the pond, incident sunlight energy on the pond surface, and the species of algae present in the pond (Franzmathes, 1970; Slanetz et al., 1970; Little et al., 1970; Davis et al., 1972; Marais, 1974; Klock, 1971; and Macko, 1976).

## EFFLUENT REQUIREMENTS

### Federal

The Water Pollution Control Amendments Acts of 1972 (PL 92-500) charged the Environmental Protection Agency with the responsbility of preserving the water quality of the United States. To fulfill this responsiblity the Environmental Protection Agency established effluent discharge standards for secondary wastewater treatment plants. All wastewater stabilization lagoons with either a continuous or intermittent discharge into a receiving stream are subject to these regulations.

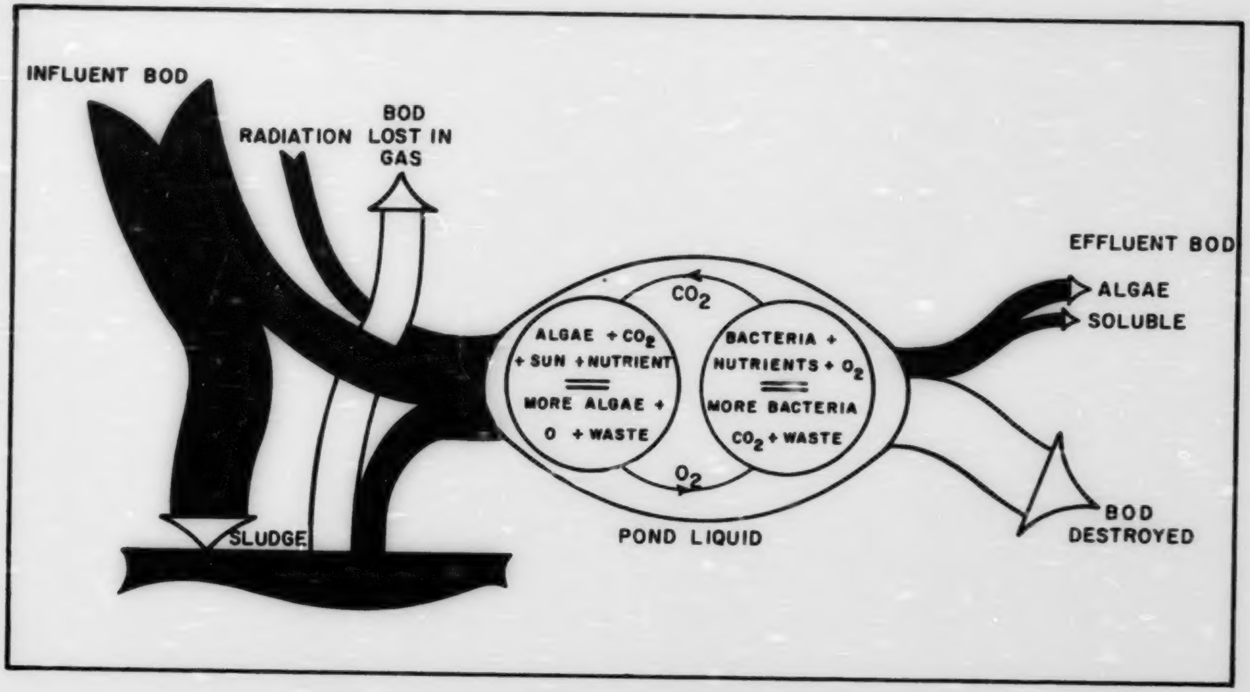
INFLUENT BOD
RADIATION
BOD LOST IN GAS
SLUDGE
ALGAE + $CO_2$ + SUN + NUTRIENT = MORE ALGAE + O + WASTE
$CO_2$
$O_2$
BACTERIA + NUTRIENTS + $O_2$ = MORE BACTERIA $CO_2$ + WASTE
POND LIQUID
EFFLUENT BOD
ALGAE
SOLUBLE
BOD DESTROYED

Figure 1. Energy flows in Oxidation Pond Degradation Processes (Marais, 1970).

The effluent discharge requirements (U.S. Government, 1973) imposed on wastewater stabilization ponds with respect to biochemical oxygen demand ($BOD_5$), suspended solids, fecal coliform bacteria and pH are listed below.

Biochemical Oxygen Demand ($BOD_5$)--

1. The arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 30 milligrams per liter (mg/l).

2. The arithmetic mean of the values for effluent samples collected in a period of seven consecutive days shall not exceed 45 milligrams per liter (mg/l).

3. The arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (i.e., 85 percent removal).

Suspended Solids--

1. The arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 30 milligrams per liter (mg/l).

2. The arithmetic mean of the values for effluent samples collected in a period of seven consecutive days shall not exceed 45 milligrams per liter (mg/l).

3. The arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (i.e., 85 percent removal).

Fecal Coliform Bacteria--

1. The geometric mean of the value for effluent samples collected in a period of 30 consecutive days shall not exceed 200 fecal coliform bacteria per 100 milliliters.

2. The geometric mean of the values for effluent samples collected in a period of seven consecutive days shall not exceed 400 fecal coliform bacteria per 100 milliliters.

pH--

The effluent values for pH shall remain within the limits of 6.0 to 9.0.

### State of Utah

Sudweeks (1970) outlined the development of Utah's lagoon design standards. Until 1974, the following standards were applied to all systems designed for the treatment of wastewater. For all overflow lagoons with chlorination, a minimum of 3 cells (basins) is required, 120 days of detention during the winter, and an organic load to the primary cell of 44.83 kg of $BOD_5$ per hectare per day (40 lb of $BOD_5$ per acre). All overflow lagoons with non-chlorinated effluents require a minimum of 6 cells, with a winter detention of 180 days, and loadings similar to those with chlorinated effluents. Maximum allowable pollution loads for water released from either type of system are as follows: 25 mg/l $BOD_5$ and a most probably number (MPN) coliform count of 5000 organisms/100 ml. These are referred to as class ''D'' water standards.

In 1974 to comply with the requirements of PL 92-500, the Utah Water Pollution Control Committee and the State of Utah Board of Health issued a set of regulations governing the discharge of effluents from waste stabilization lagoons (State of Utah, 1974). The standards based on two separate dates are listed below.

After June 30, 1977, the quality of secondary wastewater discharges must meet the following requirements.

1. The average effluent biochemical oxygen demand ($BOD_5$) must not exceed 25 mg/l during any 30 day period.

2. The average effluent suspended solids concentration must not exceed 25 mg/l during any 30 day period.

3. The effluent geometric mean total coliform bacteria must not exceed 2000 organisms per 100 milliliters during any 30 day period.

4. The effluent geometric mean fecal coliform bacteria must not exceed 200 organisms per 100 milliliters during any 30 day period.

5. The effluent values for pH shall remain within the limits of 6.5 to 9.0.

After June 30, 1980, the quality of secondary wastewater discharges must meet the following requirements.

1. The average effluent biochemical oxygen demand ($BOD_5$) must not exceed 10 mg/l during any 30 day period.

2. The average effluent suspended solids must not exceed 10 mg/l during any 30 day period.

3. The effluent geometric mean total coliform bacteria must not exceed 200 organisms per 100 milliliters during any 30 day period.

4. The effluent geometric mean fecal coliform bacteria must not exceed 20 organisms per 100 milliliters during any 30 day period.

5. The effluent values for pH shall remain within the limits of 6.5 to 9.0.

## WASTEWATER STABILIZATION BASIN DESIGN METHODS

The procedures employed for designing wastewater stabilization basins have changed considerably since 1949 when the first specifically designed lagoon was placed in operation (Barsom, 1970). Early methods were characterized by rules of thumb, engineering intuition, and practical experience (Porges et al., 1963; Sudweeks, 1970). Some of the early guidelines were reported by Toman (1963) and Towne (1961). Loading rates of 16.8 to 56.0 kg BOD/hectare/day (15 to 50 lb BOD/acre/day), depths ranging from 15.24 cm (6 in.) to 1.83 m (6 ft), and detention times of 20 to 180 days have been suggested as appropriate design parameters (Canter et al., 1970). This wide range of design parameters is particularly evidenced in a review of the design standards used by the various states (Canter et al., 1969, 1970). Only in recent years has technology and research advanced sufficiently to provide other, more concrete, grounds on which treatment basin design can be founded.

Some of the most notable contributions to the field of lagoon design during the past few years have been those of Oswald (1975), Oswald et al. (1970), Gloyna (1975), Marais (1970), and Thirumurthi (1974). Sastry and Mohanro (1975,), in reviewing pond design experience in India, commented on the basic approaches of the principal design methods. They reported as follows,

> The approach proposed by Oswald equates BOD load to the oxygenation capacity of algae which is a function of the available solar radiation. Such an approach requires a knowledge of the available solar radiation, the efficiency of utilization of the radiation by the algae, the calorific value of algae and the stochiometric relation between synthesis of algal protoplasm and oxygen production.

In reference to the approach expostulated by Gloyna (1975) the following comment was given, ''This approach emphasizes the effect of temperature on pond volume for a given efficiency by relating the pond volume to a temperature function based on Arrhenius relation'' (Sastry and Mohanro, 1975). Finally, the design equation proposed in the Marais (1970) model combines the effect of both aerobic and anaerobic decomposition as it relates to the first order kinetic equation of BOD destruction.

Each approach has valid arguments to support the author's claims. However, as mentioned by Sastry and Mohanro (1975) some methods are more difficult to apply to specific field situations due to the complexity of information and conditions involved.

Oswald's (1970) method requires specific knowledge of incident radient energy and its rate of useful uptake by the algae. Gloyna's (1975) procedure is more a sophisticated empirical design formula which is still subject to certain rules of thumb and experience-generated estimates. Finally, the Marais (1970) model is an exacting equation hampered by the difficulty of evaluating the kinetic rate constants required for the equation (Sastry et al., 1975).

Thirumurthi (1974) reported on a basic design equation with two possible modifications. Included with his basic design equation are procedures for correcting the BOD removal rate constant, K, to standard conditions. This method, similar to the Marias model (1974), is based on the first order kinetics removal rate for BOD.

The following is a presentation of each design method with its accompanying equations, assumptions and limitations.

## Oswald Method

Oswald, Meron, and Zabat (1970) proposed a design method for waste stabilization basin systems utilizing both anaerobic fermentation and algal growth potential in calculating the ability of a basin to stabilize the BOD of a wastewater.

> If BOD removal is a primary objective of pond design, it is essential to provide for carbon removal through methane fermentation or to provide for conversion of carbonaceous material to algae with subsequent provision for removal of the algal cells. (Oswald et al., 1970)

Oswald provides the following formula for calculating that portion of the BOD which will be stabilized by anaerobic fermentation:

$$L = 44.8\ (T-15) \quad \ldots\ldots\ldots\ldots \quad (1)$$

where L is BOD converted in kg/ha/day (0.089 x L = lb/acre/day) and T = average temperature of the pond supernatant (liquid) ($^{o}C$) with a minimum temperature of $15^{o}C$ for active fermentation.

> If through vertical mixing one prevents the production of methane in ponds, most of the decomposable carbonaceous material is converted to alkalinity and thus becomes available for algal growth. For those unfamiliar with the concept, the propensity of a given water to support algal growth is termed by us as Algal Growth Potential (AGP). Specifically AGP is defined as the maximum quantity of algae, usually expressed in mg/l which can be grown in a given aliquot of waste or water when no factor other than its nutrient content limits growth. (Oswald et al., 1970)

The assimilation of carbonaceous AGP is affected by the depth of the basin due to the absorption of light by the algae during the photosynthesis process. In order for the AGP of a given wastewater (typically 300 to 400 mg/l; Oswald et al., 1970) to be obtained light must be eliminated as a limiting factor. Basins should therefore be designed with depths that will provide sufficient light energy for the entire algal culture. Oswald et al. (1970) states that the penetration depth d of sunlight into an algal culture may be predicted by the equation

$$d = \frac{\ln S_o^v - S_d^v}{C_c \, \alpha} \quad \ldots\ldots\ldots\ldots\ldots \quad (2)$$

in which $S_o^v$ is the visible light intensity at the surface, $S_d^v$ is the visible light energy intensity at depth d (usually taken as that light intensity at which the photosynthetic rate of oxygen production is equal to the respiratory rate of oxygen use), $C_c$ is the concentration of uniformly dispersed algae (assuming all algae to be of nearly the same size), and $\alpha$ is an absorption coefficient. S is expressed in mg calories/cm$^2$/min (in full sunlight $S_o^v$ ~ 700 mg cal/cm$^2$/min), while $C_c$ is usually expressed in mg/l and d is expressed in cm. A typical value of in these units is about $1.0 \times 10^{-3}$ $(\text{mg/l} \cdot \text{cm})^{-1}$.

Calculations using Equation 2 indicate pond depths of 14 cm, 5.55 cm and 2.75 cm (5.9 in., 2.2 in., and 1.1 in.) would be appropriate for incorporation of the carbonaceous, nitrogenous, and phosphorus AGP respectively of a typical domestic sewage in a continuously stirred reactor.

Oswald suggests the use of recirculation of algal cells as a method for offsetting the severely shallow pond depths imposed by the calculations.

Oswald describes the survival of infectious agents as being a function of detention time and mean pond temperature. Figure 2 indicates survival according to detention times and pond temperatures.

Finally, Oswald refers to the multiple pond design currently used at St. Helena, California. The systems consist of five ponds each designed for the accomplishment of specific objectives (see Figure 3).

In designing the St. Helena system attention was given to removal of specific elements from the wastewater. Pond No. 1 is a deep (3.048 m, 10 ft) facultative lagoon providing an environment that fosters anaerobic fermentation with a corresponding reduction in carbonaceous BOD. Maximum algal growth is accomplished in Pond No. 2 through the use of a shallow depth (0.91 m, 3 ft) with aeration and recycling of the cells. This provides for further nutrient removal through assimilation into the algal biomass. Pond No. 3 has a deep design (2.44 m, 8 ft) to allow settling of the algal generated in Pond 2. The final two ponds (4 and 5) are similar in depth to Pond 3 but with greater surface area to provide additional settling and retention time. Table 1 indicates the design characteristics of the ponds. Removal efficiencies of the individual ponds are shown in Table 2. St. Helena provides a clear example of effective pond design for successful treatment of domestic wastewater.

## Gloyna Method

Gloyna (1975) presented a set of empirical equations for designing wastewater stabilization basins. This approach, particularly effective for colder climates, sets pond surface area as the critical factor. A minimal depth (one meter) is used for the establishment of the surface area relationship with additional depth being possible for storage of sludge and cold weather reserve capacity.

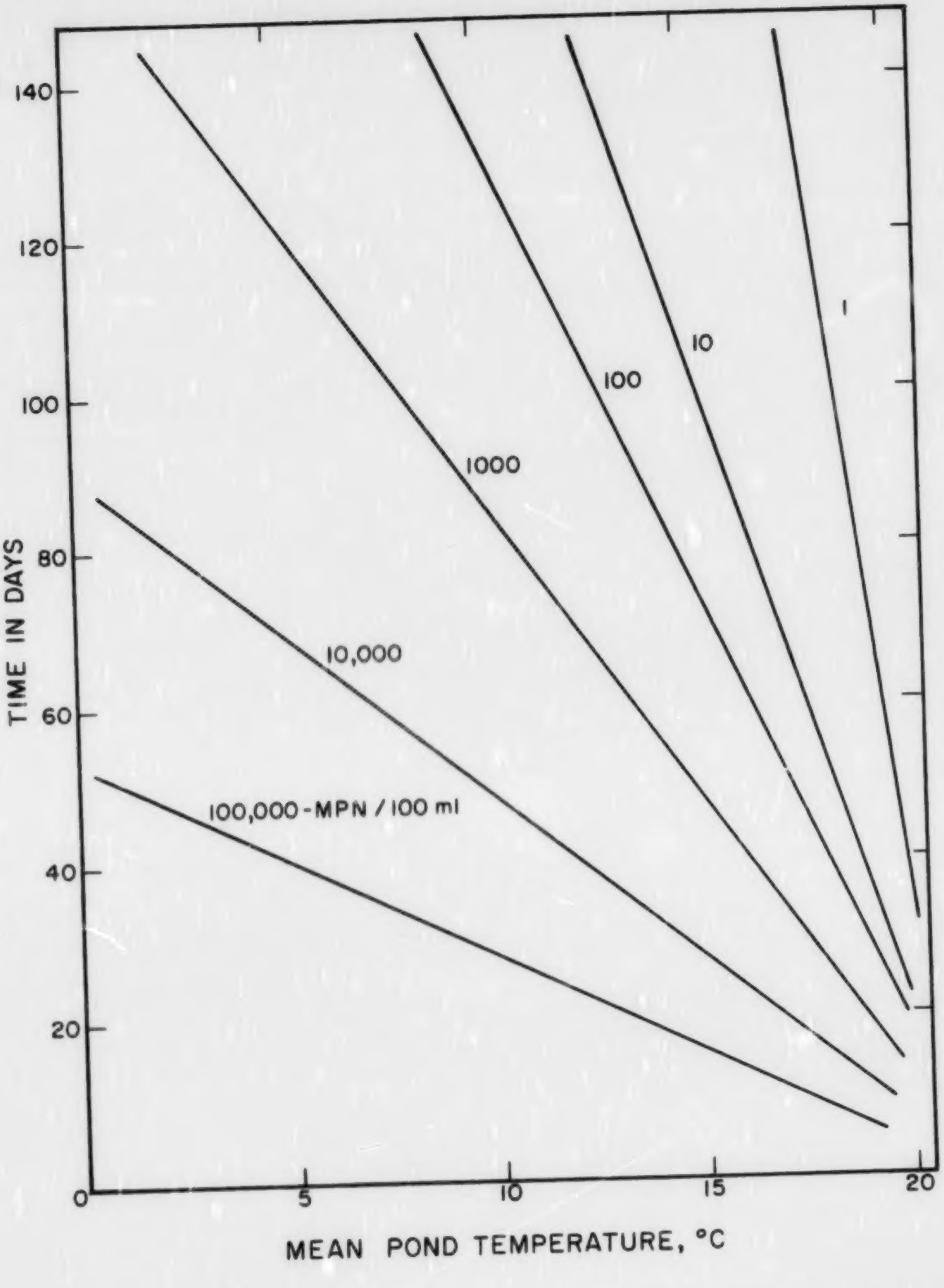

Figure 2. Observed MPN/100 ml in a single facultative pond as a function of time and temperature. Initial MPN $10^8$/100 ml (Oswald et al. 1970).

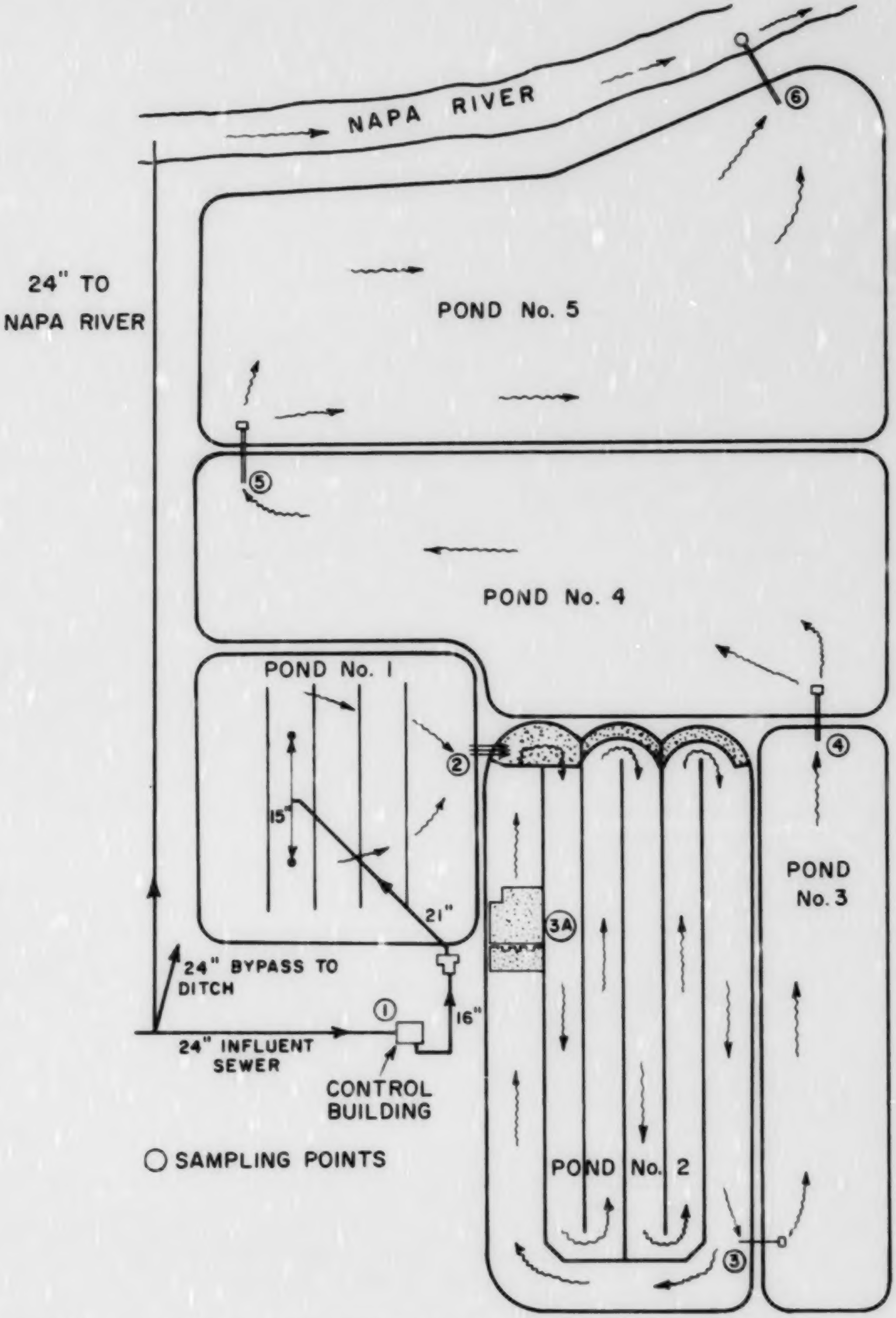
NAPA RIVER
24" TO NAPA RIVER
POND No. 5
POND No. 4
POND No. 1
POND No. 3
POND No. 2
⑥
⑤
④
②
③
3A
①
15"
21"
16"
24" BYPASS TO DITCH
24" INFLUENT SEWER
CONTROL BUILDING
○ SAMPLING POINTS

Figure 3. St. Helena stabilization ponds (Oswald et al., 1970).

Table 1. Capacities and detention time of the ponds.

| Pond | Area (acres) | Liquid Depth (feet) | Volume (ac-feet) | Detention Time (days) |
|---|---|---|---|---|
| Facultative | 2.2 | 10 | 22.0 | 17.1 |
| Aeration | 5.0 | 3 | 15.0 | 11.7 |
| Algae Sedimentation | 2.1 | 8 | 16.8 | 13.1 |
| Maturation I | 4.3 | 8 | 34.4 | 26.8 |
| Maturation II | 5.9 | 9 | 53.1 | 41.3 |
| Total | 19.5 | | 141.3 | 110.0 |

Table 2. Performance of the St. Helena ponding system.

| Characteristic | Sampling Points | | | | | | % Removal |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | |
| BOD | 142.5 | 22.2 | 8.2 | 5.1 | 2.1 | 3.9 | 97.2 |
| COD | 307.0 | 115.8 | 60.9 | 39.0 | 22.7 | 21.6 | 92.8 |
| Carbon (C) | 131.5 | 63.4 | 51.0 | 42.6 | 34.8 | 28.0 | 78.8 |
| Nitrogen (N) | 35.4 | 11.5 | 9.5 | 6.6 | 5.0 | 3.1 | 91.6 |
| Phosphate (P) | 11.8 | 7.5 | 6.7 | 5.4 | 4.4 | 4.2 | 64.3 |

Values in mg/l
1. Influent
2. Facultative Pond Effl.
3. Aeration Pond Effl.
4. Algae Sedimentation Pond Effl.
5. 1st Maturation Pond Effl.
6. 2nd Maturation Pond Effl.

$$V = 3.5 \times 10^{-5}\ Q\ L_a[\theta^{(35-T)}]f\ f' \quad \ldots\ldots\ldots\ldots \quad (3)$$

where

$V$ = pond volume ($m^3$)
$Q$ = flow (liters/day)
$L_a$ = ultimate influent $BOD_u$ (mg/l) or COD
$f$ = algal toxicity factor, f=1 for domestic sewage and many industrial wastes
$f'$ = sulfide or other immediate chemical oxygen demand, f'=1 for $SO_4$ equivalent ion concentration of less than 500 mg/l
$\theta$ = temperature coefficient (1.085 recommended)

The amount of liquid detention time provided by the above equations is represented graphically in Figure 4. Additional detention time may be provided by increasing the pond depth.

Design examples and other additional information for evaluating the magnitudes of design parameters can be found in Gloyna's (1975) work.

## Marais Method

Marais (1970) in addressing the Second International Symposium on Lagoon Treatment presented three models for following the dynamic behavior of oxidation ponds. Each of the models, increasing in complexity, is a differential equation developed to represent the BOD reduction process. The first of these models, developed by Marais and Shaw (1964) is a model based on first order kinetics for a continuously stirred reactor.

Marais (1970) lists the following assumptions for model 1:

(1) Complete and instantaneous mixing of influent with pond contents, therefore effluent BOD equals pond BOD.

(2) Degradation is according to first order reaction with the degradation constant, K, independent of temperature and retention time.

(3) No pollution losses due to seepage.

(4) No settlement of influent BOD as sludge.

Using the following notation, model 1 is represented by Equation 4.

$P_i$ = influent $BOD_5$ (mg/l) or organism concentration/unit volume (ml)
$P$ = pond or effluent $BOD_5$ (mg/l) or organism concentration/unit volume (ml)
$Q_i, Q_e$ = influent and effluent flow per day respectively in some chosen units of volume
$V$ = volume of pond in same volume units as $Q_i$ and $Q_e$
$R_i, R_e$ = influent and effluent retention times in days defined by $V/Q_i$ and $V/Q_e$ respectively
$K$ = first order degradation constant in $\log_e$ -day units (days$^{-1}$)

Model 1--

$$\frac{dP}{dt} = \frac{P_i Q_i}{V} - \left[ + K + \frac{Q_e}{V} \right] P \quad . . . . . . . . . . . . . . (4)$$

Under equilibrium conditions ($\frac{dP}{dt} = 0$) with $P_i$, $R_i$, and $R_e$ constant, the pond effluent BOD or organism concentration may be expressed as

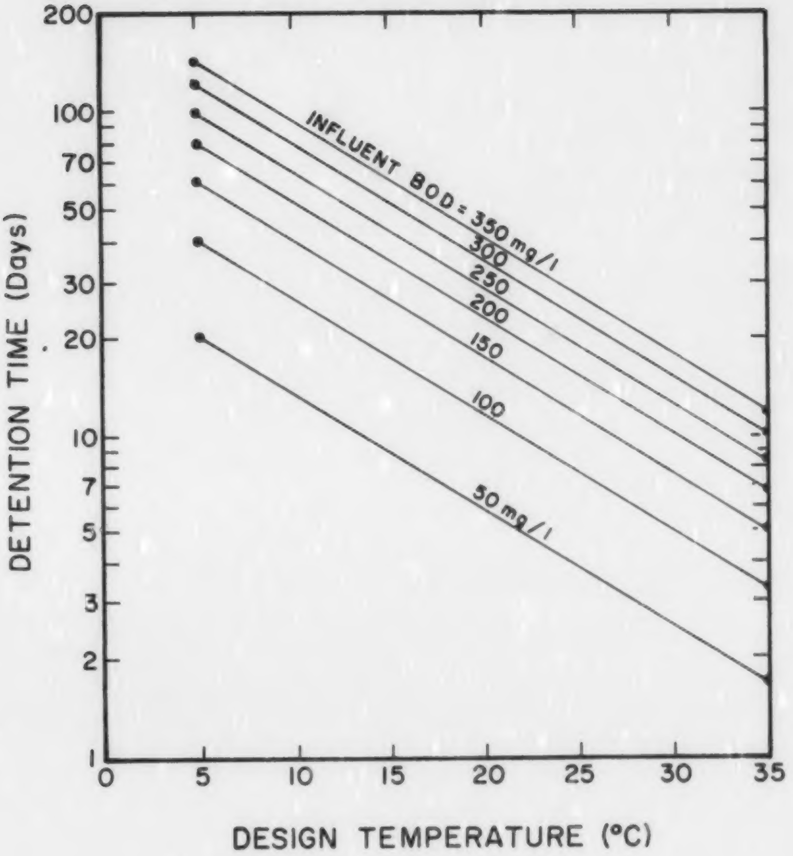

Figure 4. Detention as a function of temperature (Gloyna, 1975). Based on Gloyna's Design procedure.

$$P = \frac{P_i}{KR_i + \frac{R_i}{R_e}} \quad . . . . . . . . . . . . . . . . . . (5)$$

If seepage and evaporation losses are neglected $R_e = R_i$ and Equation 5 reduces to

$$P = \frac{P_i}{KR_i + 1} \quad . . . . . . . . . . . . . . . . . . (6)$$

Marais (1970) indicates that Model 1 has been used successfully in South Africa for predicting the reduction of faecal bacterial pollution. Model 2 is similar to Model 1 except for assumption (2) which is modified as follows:

(2) Degradation is a first order reaction with the reaction rate dependent on temperature according to Arrhenius' relationship.

Under steady conditions of influent flow BOD and temperature, Equation 4 applies and all its consequences, therefore

$$P = \frac{P_i}{K_T\ R + 1} \quad . . . . . . . . . . . . . . . . . (7)$$

where

$$K_T = K_{T_o}\ \theta^{-(T_o-T)} \quad . . . . . . . . . . . . . . . (8)$$

Equation 8 is Arrhenius' equation relating the value of K at temperature T with $K_{T_o}$ at temperature $T_o$.

Marais (1970) continues by suggesting values for $\theta = 1.085$, $K_{T_o} = 1.2$, and $T_o = 35^oC$ for Model 2. It is important to note that Models 1 and 2 do not account for the action of anaerobic fermentation in the lagoon sludge.

Model 3 (Marais, 1970) was developed to incorporate the effects of the sludge layer. This incorporation is possible by assuming the fermentation process also follows the first order kinetic already applied to the other portions of the BOD reduction reaction. The following assumptions apply to Model 3.

(1) All BOD measurements are based on the ultimate first stage BOD with a constant of 1.47 used for conversion of $BOD_5$ to $BOD_{ult}$ for domestic waste.

(2) A fraction, $i_p$, of the influent ultimate BOD, $P_{ui}$, is dispersed within the liquid of the pond, the remaining fraction, $i_s$, settles as a sludge.

(3) There is complete and instantaneous mixing in the pond, therefore effluent BOD is equal to the pond BOD.

(4) The process reaction constant, K, for the pond liquid, and $K_s$ for the sludge layer are temperature dependent according to the following relationship:

$$K_T = K_{T_o} \; e^{-c(T_o - T)}$$

with

$$\theta = e^c$$

(5) A fraction, $s_p$, of the BOD lost from the sludge due to fermentation enters the pond liquid volume; the remaining fraction, $s_g$, leaves the system as gas (see Figure 1).

Three differential equations are used to describe the third model. They represent the rate of change of sludge mass, the rate of gas evolution from the sludge, and the rate of change of the pond BOD. Marais (1970) presented the equations as follows:

Rate of change of sludge mass, $S_t$

$$\frac{dS_t}{dt} = -K_s \, S_t + i_s \, P_{ui} \, (\tau Q \times 10^{-6}) \quad . \; . \; . \; . \; . \; . \; . \; . \; . \; . \; . \; . \; . \qquad (9)$$

where

$K_s$ = temperature-dependent according to Equation 8
$S_t$ = total mass of sludge BOD in lb or kilogram
$\tau$ = mass per unit volume of pond liquid (1 $kgm/m^3$, 62.4 $lb/ft^3$, 10 lb/Imp gal),
Q = daily flow in $M^3$, $ft^3$, gal.

Rate of gas evolution from sludge

$$\frac{dV_g}{dt} = C_v \, s_g \, K_s \, S_t \quad . \; . \; . \; . \; . \; . \; . \; . \; . \; . \; . \; . \; . \; . \; . \; . \; . \qquad (10)$$

where

$C_v$ = volume of gas liberated per unit mass BOD destroyed.

Rate of change of BOD, $P_u$, in the pond. Change of BOD in time, dt, represents a reduction in degradation action in the pond and loss in effluent or an increase due to influent fraction, $i_p$, and fermentation product

$$\frac{dP_u}{dt} = -\left[K + \frac{Q_e}{V}\right] P_u + \frac{i_p\ P_{ui}\ Q_i}{V} + \frac{s_p\ K_s\ S_t}{V\ \tau} \times 10^6 \quad . \ . \ . \ . \ . \ . \ . \quad (11)$$

If the influent BOD, flow rate and temperature remain constant, $(s_p + s_g = 1)$ then at equilibrium $dS_t/dt = 0$ and $dP/dt = 0$. Therefore Equation 10 reduces to

$$S_t = i_s\ P_{ui}\ Q/K_s \quad . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \quad (12)$$

Furthermore if $Q_e = Q_i$ so that $R_i = R_e = R$, Equation 11 reduces to

$$P_u = \frac{P_{ui}}{K\ R + 1}\ (i_p + s_p i_p) \quad . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \quad (13)$$

The use of Equation 13 is hindered by seasonal temperature fluctuations.

Although Marais (1970) furnishes values for some of the constants required for the evaluation of Model 3, use of the model is still hampered by the lack of information for evaluating $i_p$, $i_s$, $s_p$, and $s_g$. He lists the following suggested values: $i_s = 0.4$ to $0.6$, $s_p = 0.4$, $s_g = 0.6$ and $C_v$ = approximately 0.28 $m^3$ (10 $ft^3$) gas produced per pound sludge BOD stablized.

$$K_s = 0.002(1.35)^{-(20-T)} \quad . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \quad (14)$$

Future research will be valuable in providing data for the evaluation of Marais' constants, thus making Model 3 more useful for pond design.

Thirumurthi Method

Thirumurthi et al. (1967) and Thirumurthi (1969, 1974) proposed the designing of stabilization basins using the equations developed for non-ideal mix chemical reactors. These equations, reported by Wehner and Wilhem (1958), were derived to treat the case of a chemical reactor having neither plug flow (no mixing) nor complete mixing, but a condition intermediate to the two.

Equation 15 is the complete equation with the Equations 17 and 18 being modifications for specialized conditions.

$$\frac{C_e}{C_i} = \frac{4\ a\ e^{1/2d}}{(1 + a)^2\ e^{1/2d} - (1 - a)^2\ e^{1a/d}} \quad . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \quad (15)$$

where,

$$a = (1 + 4\ k\ t\ d)^{1/2} \text{ and } d = \frac{D}{UL} = \frac{Dt}{L^2} \quad . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \quad (16)$$

in which

d = diffusivity constant or dispersion number (dimensionless)
D = axial dispersion coefficient (sq ft per hr)
U = fluid velocity (ft per hr)
L = characteristic length of travel path of a typical particle in the tank (ft)
$C_e$ = effluent concentration
$C_i$ = influent concentration
k = first order reaction constant
t = mean residence or detention time.

Thirumurthi (1969) suggested that Equation 15 be used to design biological wastewater treatment systems. He further indicated that the hydraulic variations of short circuiting, mixing, entrance and exit device influence can all be accounted for in the coefficient d. Values of zero and infinity being used for d in the case of plug flow and completely mixed systems respectively.

Figure 5 was prepared by Thirumurthi (1974) to indicate the relationship between BOD removal and the removal rate constant. The effect of detention time and flow characteristics are also shown.

The temperature, influent waste qualities, nutrient deficiencies, organic load and other biological factors can be accounted for in the value of k. The hydraulic load, is represented by the value of the actual (mean) residence or detention time, t.

For reactors of the plug flow type the equation

$$\frac{C_e}{C_i} = e^{-kt} \qquad \text{. . . . . . . . . . . . . . . . . . . (17)}$$

is appropriate. For reactors where complete mixing is assumed the equation

$$\frac{C_e}{C_i} = \frac{1}{1 + kt} \qquad \text{. . . . . . . . . . . . . . . . . . . (18)}$$

is used. This equation is sometimes used inappropriately for basin design by assuming complete mixing in the basin, when not actually true.

The following conditions have been listed as definitions for Thirumurthi's proposed method:

1. Standard BOD removal coefficient, $K_s$: A standard value of $K_s$ has been chosen that corresponds to an arbitrarily selected standard environment.

2. The standard environment consists of (a) pond temperature of 20°C, (b) an organic load of 67.2 kg/day/ha (60 lb/day/acre), (c) absence of industrial toxic chemicals, (d) minimum (visible) solar energy at the rate of 100 langleys/day, and (e) absence of benthal load.

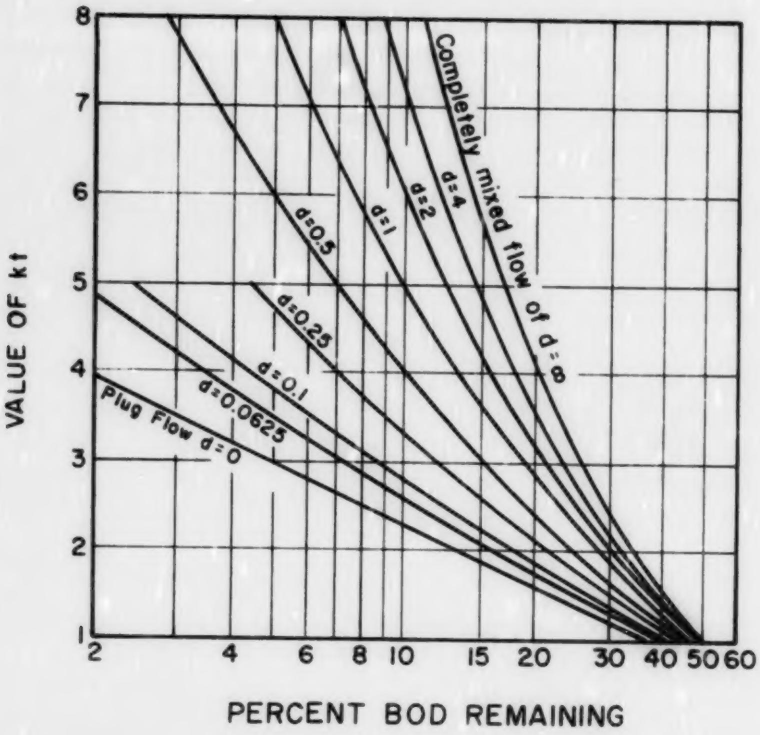

Figure 5. Design Formula Chart (Thirumurthi, 1974).

3. Design coefficient, K, corresponds to the actual environment surrounding the pond. Hence, the value of K will be used in Equation 15, 17, or 18 when a pond is being designed. When the actual environmental conditions deviate from one or more of the five defined standard environmental conditions, suitable correction factors must be incorporated.

$$K = K_s C_{Te} C_o C_{Tox} \quad \ldots\ldots\ldots\ldots \quad (19)$$

where

$C$ = correction factor
$T_e$ = correction for temperature
$o$ = correction for organic load
$Tox$ = correction for industrial toxic chemicals

Temperature Correction--

$$C_{Te} = \theta^{T-20} \quad \ldots\ldots\ldots\ldots \quad (20)$$

where

$T$ = average temperature of the pond contents in the critical or coldest winter month ($^oC$)
$\theta$ = 1.036

Organic Load Correction--

$$C_o = 1 - \frac{0.083}{K_s}\left[\log_{10}\left(\frac{67.2}{L}\right)\right] \quad \ldots\ldots\ldots\ldots \quad (21)$$

where

$L$ = organic load in kg/day/ha (proposed or intended value)
67.2 = standard organic load in kg/day/ha (60 lb/day/acre)

Toxicity Correction--

In the absence of industrial waste, the factor $C_{Toc}$ will equal unity. Table 3 lists concentration levels for organic pollutants and corresponding $C_{Toc}$ values.

In an attempt to calibrate the design procedure, Thirumurthi evaluated data collected from three stabilization basin systems. The following assumptions were listed in connection with the calculations:

1. Plug-flow was assumed to exist in all the selected field ponds because tracer studies were not conducted by the authors. Also, assuming plug-flow pattern as a first approximation caused less than 2 percent error in the magnitude of K.

Table 3. Toxicity Correction Factors (Thirumurthi, 1974).

| Organic Chemical | Concentration of Organic Chemical in the Pond Influent (mg/l) | Suggested Values of $C_{Tox}$ |
|---|---|---|
| Methanoic acid | 180 | 2.0 |
| | 360 | 16.0 |
| Ethanoic acid | 270 | 1.6 |
| Propanoic acid | 180 | 2.65 |
| Hexanoic acid | 200 | 1.3 |
| | 300 | 5.0 |
| 1-Butanol | 4,000 | 2.0 |
| Octanol | 150 | 2.0 |
| | 200 | 4.0 |
| Malthane | 70 | 2.5 |
| | 140 | 8.0 |
| 25 percent DDT in 67 percent xylene solvent and 8 percent emulsifier | 100 | 2.5 |
| | 125 | $\infty$[a] |
| "Ortho"<br>29 percent Malathion<br>10 percent BHC<br>43 percent solvents<br>18 percent inert ingredients | 100 | 2.5 |
| | 340 | $\infty$[a] |

[a] Complete destruction of algal life.

2. Toxic industrial wastes inhibitory to algal growth were assumed to be absent or insignificant in all the ponds studied. The authors of the previous studies, from which the data was taken, did not make any specific statements contrary to this assumption.

3. The influences of pond depth and benthal load have not been included in this study because a critical review of their effects and correction factors to determine their relationship with pond performance is not yet available (Thirmurthi, 1974).

The average value of $K_s$ reported for the three lagoon systems studied was 0.056/day, with a range from 0.042 to 0.071/day.

Finally Thirumurthi proposed that two critical light levels, A and B, exist. When incident radiation falls below level A, 25 langleys/day, the concentration of oxygen in the effluent is affected. If incident radiation falls below level B, 6 to 12 langleys/22.7 kg BOD (6 to 12 langleys/50 lb BOD), the BOD removal efficiency of the pond will be affected.

## MODEL EVALUATION

Each of the four methods presented in this section provides for designing basins according to scientific methods. Although the equations proposed by Gloyna (1975) are of an empirical nature they do reflect a compilation of engineering knowledge and experience.

Oswald et al. (1970) design method is centered mainly on light energy and its affect on algal growth. He does however provide Equation 1 for evaluating the anaerobic fermentation process. The chemical reactor equations (15, 17, 18) applied by Thirumurthi (1974) provide a more accurate evaluation of the liquid body reaction relating treatment to kinetic first order decay. This approach is also emphasized by Marais (1970) who attempts to couple first order kinetics in the liquid body with the fermentation reaction and all of the transfers between the two. Marais' attempt to characterize the actions of a real lagoon are therefore the most complete and correspondingly most difficult to evaluate due to the many environmental variables interacting in the basin.

It should also be noted that Thirumurthi (1969, 1974) used a value of 1.036 for the temperature coefficient, $\theta$. Thirumurthi (1974) provides experimental data to support this figure which is less conservative than the value 1.085 used by Marais (1970) and by Gloyna (1975).

## PERFORMANCE EVALUATIONS

Numerous partial evaluations of the performance of lagoon systems have been reported and reviews and synopses of these studies are available in the literature (U.S.PHS, 1960; Williford and Middlebrooks, 1967; McKinney, 1970; and Jones et al., 1969). However, comprehensive evaluations were not available until the initiation of a series of studies by the U.S. Environmental Protection Agency (USEPA). The information contained in this report is the result of one phase of the USEPA study.

# SECTION 5

# PROCEDURES

## STUDY LOCATION

The study was conducted at the Corinne Waste Stabilization Lagoon System, Corinne, Utah. The City of Corinne is located in Box Elder County in the Northwestern portion of Utah. The community has a population of 471 persons (1970 Census) and no major industry. It is predominantly a rural farming community with a few residents commuting to surrounding industries outside the Corinne area. The only rural nonresidential structures in the community are two churches, one elementary school, one restaurant, one cafe, a farm supply and feed store, a farm storage warehouse and a service station.

The elevation of Corinne is approximately 1,372 meters (4,500 feet) above mean sea level. The annual precipitation is approximately 35.56 centimeters (14 inches) per year. Summer temperatures will reach as high as 38°C (100°F) while winter temperatures drop to as low as -24°C (-10°F).

## LAGOON SYSTEM

The Corinne City Wastewater Lagoon System was constructed during 1970 and began discharging in the spring of 1971. A flow diagram of the system is shown in Figure 6. The facility consists of seven facultative cells connected in series. None of these cells are mechanically aerated and comminution is the only pretreatment prior to the raw sewage entering the primary cell.

The system was designed according to State of Utah requirements for waste stabilization pond design in 1970 (Sudweeks, 1970). The original design calculations were based on a design population of 700 people, a design flowrate of 265,000 liters/day (70,000 gal/day), assuming a raw sewage strength of 0.077 kg $BOD_5$/person/day (0.17 lbs $BOD_5$/person/day) and a flowrate of 378.5 liters/person/day (100 gal/person/day). The design organic load was 36.2 kg $BOD_5$/ha/day (32.2 lbs $BOD_5$/acre/day) with a winter theoretical total hydraulic detention time of 180 days. Thus, the total surface area of the system is approximately 3.86 ha (9.53 acres) with the primary pond having a surface area of 1.49 ha (3.69 acres), ponds 2 through 6 having a surface area of 0.41 ha (1.0 acre) each and pond number 7 having a surface area of 0.34 ha (0.84 acres). The average depth of all the ponds is approximately 1.22 meters (4 ft).

The comminutor is located at a pump lift station located approximately 152.4 meters (500 feet) from the primary lgoon. Also located at the pump lift station is the influent flow recorder. The influent flow meaning device is a

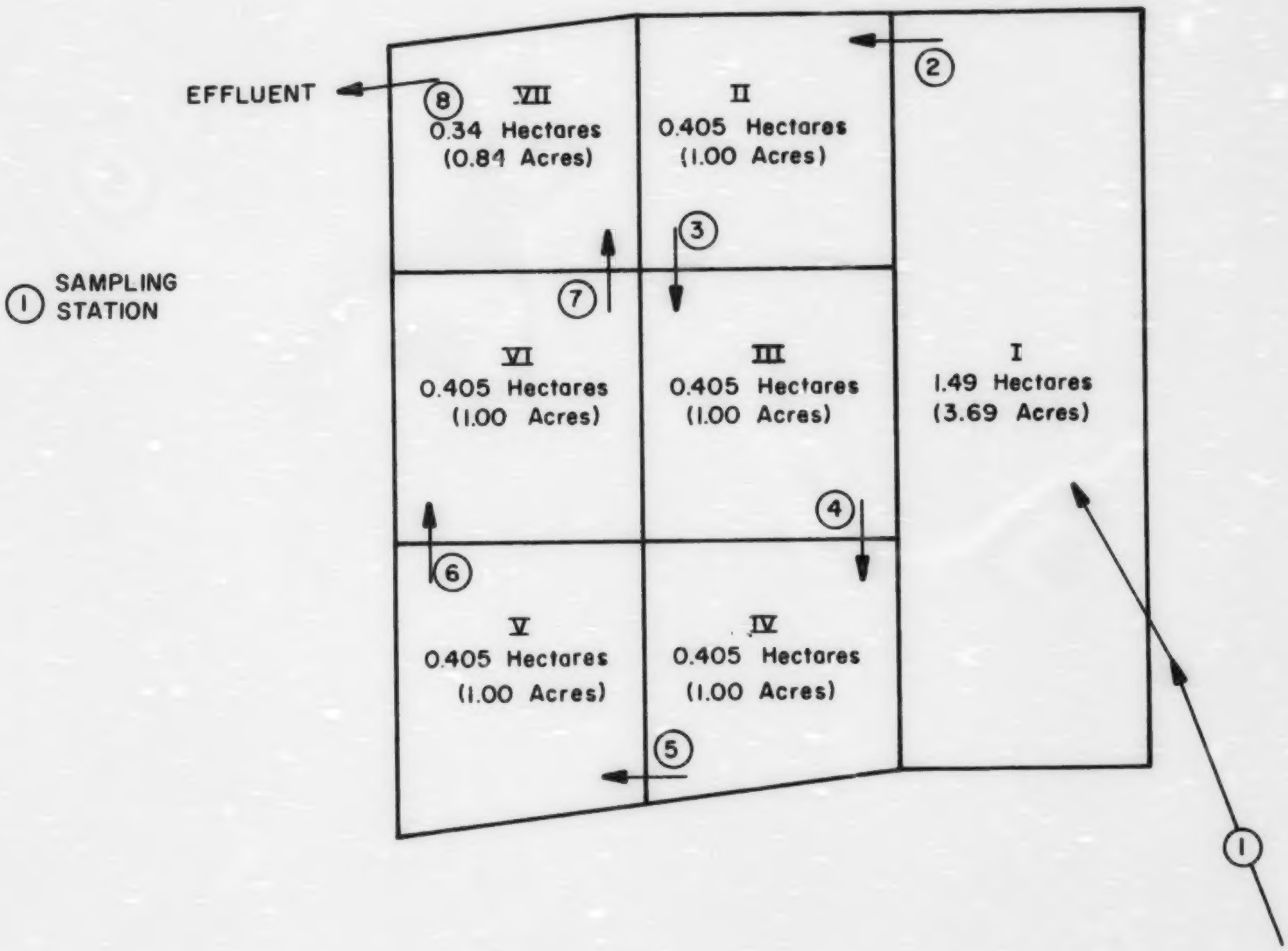
EFFLUENT
⑧
VII
0.34 Hectares
(0.84 Acres)
II
0.405 Hectares
(1.00 Acres)
②
③
① SAMPLING STATION
⑦
VI
0.405 Hectares
(1.00 Acres)
III
0.405 Hectares
(1.00 Acres)
I
1.49 Hectares
(3.69 Acres)
④
⑥
V
0.405 Hectares
(1.00 Acres)
IV
0.405 Hectares
(1.00 Acres)
⑤
①

Figure 6. Flow Diagram of Corinne City Wastewater Lagoon System.

20.32 cm (8 inch) Palmer Bowlus Flume coupled to a Stevens Model 61-R[1] continuous flow recorder. The influent raw sewage flows through the flume into the comminutor before entering the wet well for the pump station. From the pump lift station the comminuted raw sewage flows through a 15.24 cm (6 inch) diameter force main to the primary cell of the lagoon system. Wastewater enters the bottom of each panel through an influent pipe constructed from a 20.32 cm (8 inch) concrete pipe which is connected to a vertical 60.96 cm (24 inch) corregated metal standpipe in the previous panel. The water depth of each lagoon is fixed by the height of the vertical standpipe. No provision was made for varying the lagoon depth.

The effluent flowrate from the final pond (final system effluent) was monitored with a 45 degree V-notch weir coupled with a Stevens Model 61-R continuous flow recorder. A discussion of the actual hydraulic residence times of each pond compared to the theoretical hydraulic residence time is presented in the Results and Discussion Section.

## SAMPLE COLLECTION AND ANALYSIS

The location of each sampling station is shown on Figure 6 and described in Table 4. Automatic 24-hour composite samplers were located at Stations 2 through 7. A flow proportional 24-hour composite sampler was located at Station Number 1 (raw sewage influent). All sampling equipment was housed in sampling houses constructed of plywood and lined with foam insulation (see Figure 7). These sampling houses were mounted over the effluent discharge structure of each lagoon. The location of the raw influent sample station (Station Number 1) is shown in Figure 8. Each sampling house was equipped with a portable, propane operated refrigerator[2] and a small heating element constructed from the components of a water heater heating unit. Also mounted in the house was a shelf for the storage of a 96 amp hr battery used to drive the automatic sampler.

Problems were experienced with the sampling houses and the equipment. Extreme cold weather occasionally froze water in the intake tube even though the sampling house was heated. This was particularly true when water leaked into the insulated portion of the intake structure (see Figure 7).

Variations in the temperature of the air outside the sample houses also affected the operation of the refrigerators causing them to freeze when the external (ambient) air temperature dropped, or to run too warm if the ambient air temperature was excessive. Due to the seasonal temperature fluctuations continual adjustment of the refrigerators was required.

One additional problem was generated by the wildlife associated with the pond system. Due to the configuration of the sampling houses setting on the

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[1] Leupold and Stevens, Inc., Box 688, Beaverton, Oregon.

[2] Instamatic model RV-4, Instamatic Corp., 2323 Middlebury St., Elkhart, Indiana, 46514.

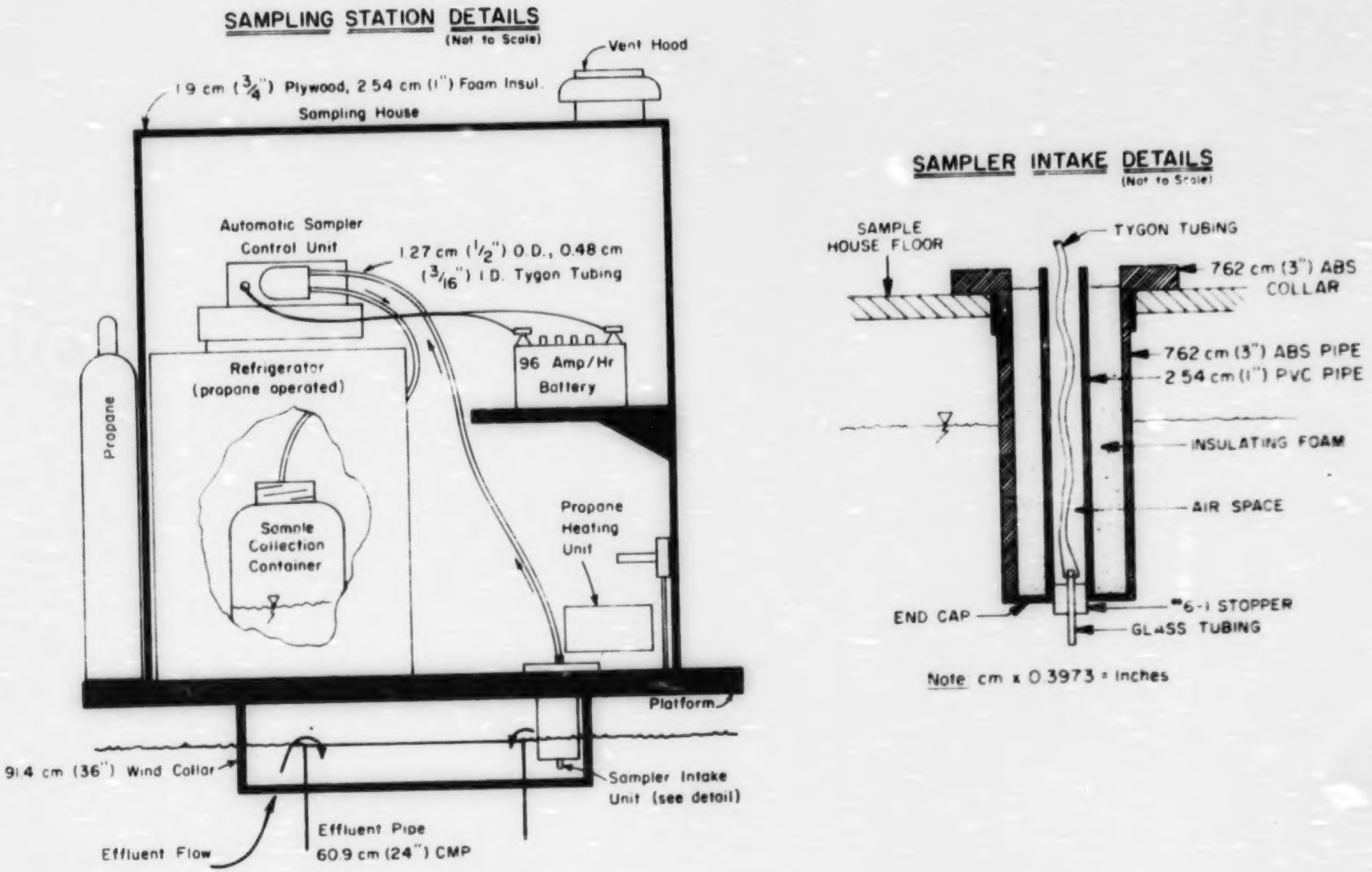
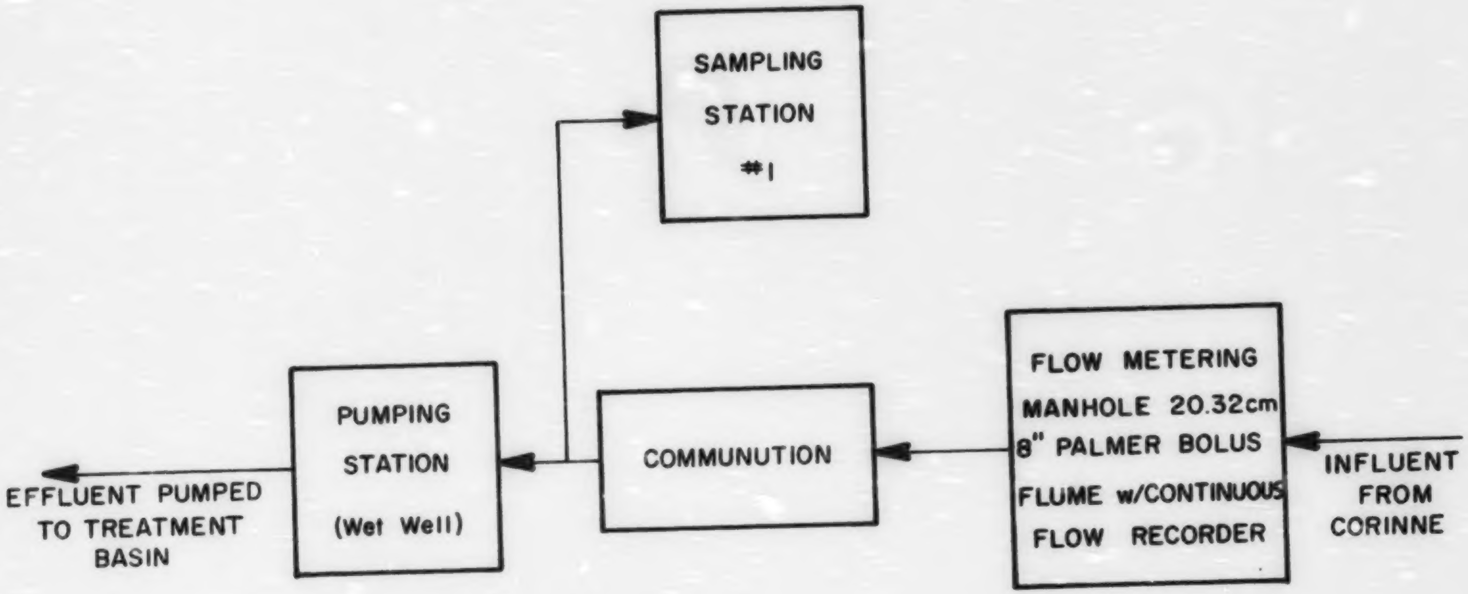

SAMPLING STATION DETAILS
(Not to Scale)
Vent Hood
1.9 cm (3/4") Plywood, 2.54 cm (1") Foam Insul.
Sampling House
Automatic Sampler Control Unit
1.27 cm (1/2") O.D., 0.48 cm (3/16") I.D. Tygon Tubing
Refrigerator (propane operated)
96 Amp/Hr Battery
Propane
Sample Collection Container
Propane Heating Unit
Platform
91.4 cm (36") Wind Collar
Sampler Intake Unit (see detail)
Effluent Pipe 60.9 cm (24") CMP
Effluent Flow
SAMPLER INTAKE DETAILS
(Not to Scale)
SAMPLE HOUSE FLOOR
TYGON TUBING
7.62 cm (3") ABS COLLAR
7.62 cm (3") ABS PIPE
2.54 cm (1") PVC PIPE
INSULATING FOAM
AIR SPACE
END CAP
#6-1 STOPPER
GLASS TUBING
Note: cm x 0.3973 = inches

Figure 7. Sampling station details.


SAMPLING
STATION
#1
PUMPING
STATION
(Wet Well)
COMMUNUTION
FLOW METERING
MANHOLE 20.32cm
8" PALMER BOLUS
FLUME w/CONTINUOUS
FLOW RECORDER
INFLUENT
FROM
CORINNE
EFFLUENT PUMPED
TO TREATMENT
BASIN

Note: cm x 0.3974 = Inches

Figure 8. Station No. 1 Flowchart.

Table 4. Description of sampling stations for Corinne City Wastewater Lagoon System.

| Sampling Station Number | Station Description |
|---|---|
| 1 | Raw wastewater influent to system; pump lift station (a totalizer flow meter is located at this point) |
| 2 | Effluent from Cell I |
| 3 | Effluent from Cell II |
| 4 | Effluent from Cell III |
| 5 | Effluent from Cell IV |
| 6 | Effluent from Cell V |
| 7 | Effluent from Cell VI |
| 8 | Effluent from Cell VII and also final effluent from the Lagoon System (a totalizer flow meter is located at this point) |

effluent structure, a sheltered enclosure was formed with only two small openings to the outside. These were easily plugged by the muskrats. In the process of filling the holes with vegetation sufficient material often fell into the effluent stream which caused plugging of the effluent piping.

Three different automatic, composite samples were employed during this study; two from the Quality Control Equipment Company (QCE),[1] and one from the Instrument Specialties Company (ISCO).[2] Due to continual mechanical difficulties the QCE model CVE was replaced with a QCE model CVE-II, a later version of the model CVE. Finally all of the QCE units were replaced with ISCO model 1580 samplers which performed well throughout the remainder of the study.

Sampling began January 23, 1975 and continued until January 31, 1976. Samples were collected every third day on a rotating schedule except for a 30 day period each season when samples were collected daily for 30 consecutive days. All samples were collected between 5:00 AM and 10:00 AM. Dissolved oxygen,[3] temperature, and pH[4] were measured in situ. During the fall of 1976 when a grab sample was transported in an ice bath to the Utah Water Research Laboratory (UWRL), Logan, Utah and pH was measured in the laboratory[5] rather than in situ. At the Utah Water Research Laboratory, the composite samples were analyzed for $BOD_5$, soluble $BOD_5$, alkalinity, suspended solids, and volatile suspended solids. In addition, preserved composite samples were sent to the EPA Robert A. Raft Laboratory in Cincinnati, Ohio for the following analyses: total and soluble COD, $NH_3$-N, $NO_2$-N, $NO_3$-N, total phosphate, and TKN. Grab samples were substituted for the composite samples when the automatic composite samplers failed to function properly. This occurred on less than 10 percent of samples. During the 30 day consecutive sample periods $NH_3$-N, $NO_2$-N, $NO_3$-N, and total coliforms were only analyzed every third day.

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[1] Quality Control Equipment Co., P.O. Box 2706, Des Moines, Iowa 50315.

[2] Instrument Specialties Co., P.O. Box 5347, Lincoln, Nebraska 68505.

[3] Yellow Springs Instrument Co., Model 54, Yellow Springs, Ohio.

[4] E. H. Sargent and Company, portable pH meter, Denver, Colorado.

[5] Beckman Instruments Inc., Zeromatic II, Fullerton, California.

Samples were sent to the EPA Robert A. Taft Laboratory by air parcel post and were preserved using the following techniques:

| | | |
|---|---|---|
| 1. | Total COD<br>Total P<br>TKN | Collect 1 liter. These three tests were run on the 1 liter sample shipped. Add sulfuric acid to preserve sample. Method 200 B, page 368, Standard Methods. |
| 2. | $NH_3$-N<br>$NO_2$-N<br>$NO_3$-N | Collect 1 liter. These three test were run on the 1 liter shipped. Add 1 ml chloroform to the liter for preservation of the sample. |

All chemical analyses performed at the UWRL and by the EPA laboratory followed the methods and procedures described in Methods for Chemical Analysis of Water and Wastewater (EPA, 1974). Algal genera counts were performed using a Sedgwich-Rafter cell counter according to Standard Methods (APHA, 1971).

In addition to the composite samples, two grab samples for fecal bacteria analysis were collected at each station. One set was shipped on ice to the Utah State Health Department Laboratory in Salt Lake City to be analyzed for total and fecal coliform bacteria by the MPN technique. The remaining set of bacteria samples were analyzed at the UWRL for fecal coliforms and fecal streptococci using the membrane filter technique. All analyses were performed according to the methods described in Standard Methods (1971). The methods and media used are tabulated in Table 5.

All samples were transported from the study site to the Water Quality Laboratory, Utah Water Research Laboratory, Utah State University, Logan, Utah. Transportation required approximately 45 minutes, all samples were transported in their collection containers and shielded from sunlight. The pH, hydraulic, and bacterial samples were iced during transportation.

## METEOROLOGICAL DATA

Precipitation, wind speed, temperature (maximum, average, minimum), pan evaporation and solar radiation (total incident radiation) was collected at weather stations near Corinne and published in Climatological Data (NOAA, 1975, 1976). All information except that relating to evaporation and solar radiation was obtained from the Corinne reporting station located 1.6 kilometers (1 mile) from the treatment facility. Evaporation data were furnished by the Bear River Refuge reporting station located 16 kilometers (10 miles) from the study site. Solar radiation data were obtained from the solar radiation station, located at Utah State University in Logan, Utah, 32 kilometers (20 miles) from the Corinne site.

## HYDRAULIC DATA

Flow rates and total volumes of wastewater entering and leaving the lagoon system were recorded at Stations Number 1 and Number 8. Flow patterns

Table 5. Methods and media used for the bacteriological analyses.

| | Method | Media (Manufacturer) | Die-off/Lagoon Study |
|---|---|---|---|
| Fecal coliforms | Standard Methods (APHA, 1971) Section 408 B | m-FC broth (BBL 11365) | Die-off and Lagoon Study |
| Fecal streptococci | Standard Methods (APHA, 1971) Section 409 B | KF agar (Difco 0496-01) | Die-off and Lagoon Study |
| Total coliforms | Standard Methods (APHA, 1971) Section 408 A | m-Endo broth (Difco 0749-01) | Die-off Study Only |

and detention times were determined by injecting rhodamine B dye into the influent of each pond and monitoring the effluent of each pond for dye concentration.

Dye samples were analyzed on a Turner[1] model 111 fluorometer using a 568 nm primary filter and a 590 nm secondary filter. The meter was calibrated according to procedures outlined by Buttes (1969). Dye dispersion curves were plotted using the temperature-corrected readings. These curves were analyzed using the techniques provided by Marske and Boyle (1973).

## DATA ANALYSES

All computerized data manipulations, including statistical calculations were performed on the Burrows 6300 computer located at Utah State University, Logan, Utah. Programs for all operations were written by members of the study team. Statistical calculations were performed according to methods provided by Sakal and Rohlf (1969).

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[1] Turner Fluorometer, Model 111, by G. K. Turner Associates, Palo Alto, California.

# SECTION 6

# RESULTS AND DISCUSSION

## GENERAL

The Results and Discussion Section is divided into two subsections. The Performance subsection evaluates the system performance with respect to the seasonal variation of each parameter, the ability of the system to satisfy the Water Pollution Control Amendments of 1972 discharge requirements, the State of Utah discharge requirements and the criteria with which the system was designed. Parameters are presented in terms of monthly averages in an attempt to illustrate long term variations. The Model Evaluation subsection evaluates the applicability of two accepted lagoon design models to the Corinne City Sewage Lagoon System.

A complete set of all data collected for the study is presented in the Appendix.

## SEASONAL PERFORMANCE

### General

All of the ponds are designated by pond number. The data for a given pond represent the quality of the effluent water from that particular pond. Pond Number 7 is the final pond in the system, its effluent is therefore the effluent for the entire system and is generally designated as ''Effluent'' rather than ''Pond 7.'' ''Influent'' represents the incoming raw sewage wastewater from the City of Corinne.

### Hydraulic Performance

The average monthly influent and effluent daily flowrates are recorded in Table 6 and shown graphically in Figure 9. A complete listing of the data is in Appendix A, Table A-1. The average monthly daily flowrate varied from 1,029,645 liter/day (272,033 gal/day) in October to 253,667 liters/day (67,019 gal/day) in December. The yearly average influent daily flowrate was 693,724 liters/day (183,282 gal/day). This represents a per capita hydraulic load to the system of 1472.9 liter/person/day (389.1 gal/person/day). The yearly average daily flowrate exceeds the hydraulic design flowrate by 2.62 times.

It is clearly evident that the sewage collection system has a significant load due to infiltration and inflow. The groundwater table in the Corinne area is relatively shallow. The influent flow data suggest that a significant amount of groundwater is entering the system. The groundwater pool is supplied

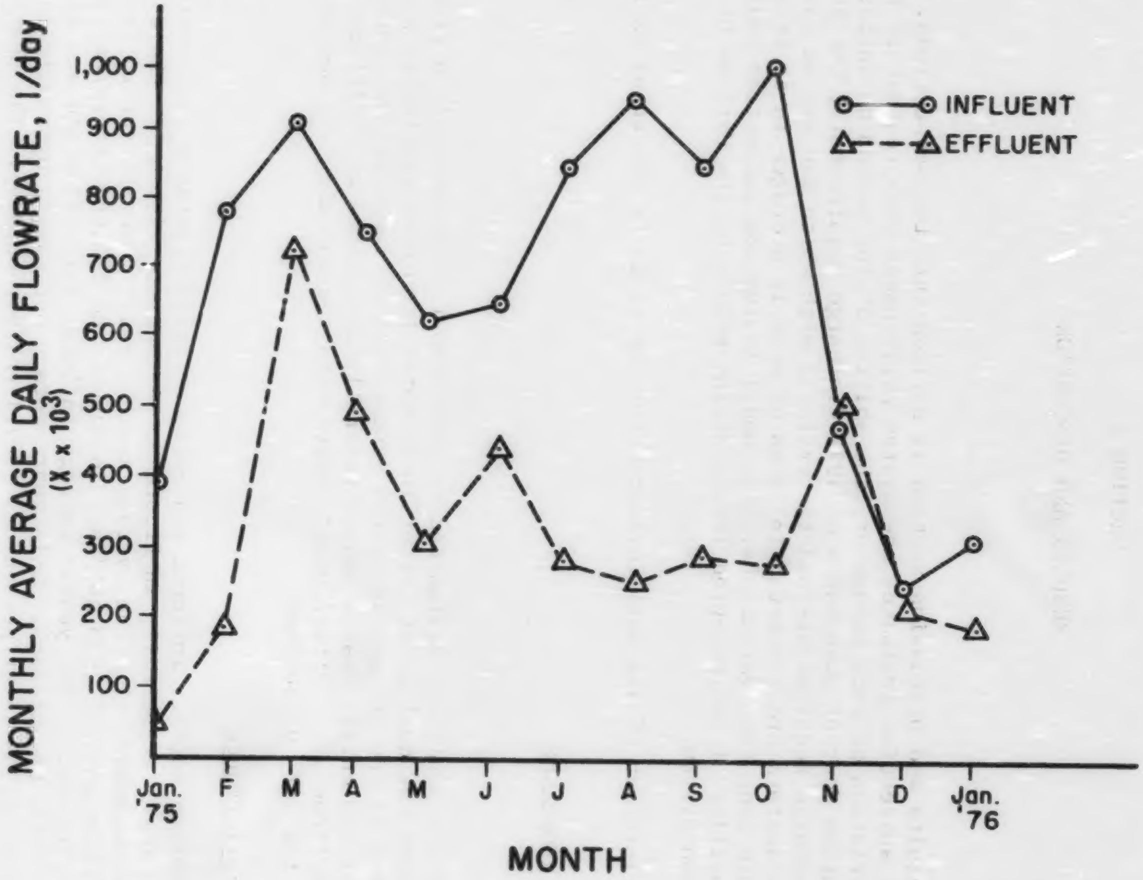

Figure 9. Monthly average influent and effluent daily flowrate.

Table 6. Monthly average influent and effluent daily flowrate in liters per day.

| Month | Influent l/day | Effluent l/day |
|---|---|---|
| January 1975 | 408,947 | 51,729 |
| February | 799,695 | 196,305 |
| March | 929,051 | 740,698 |
| April | 782,083 | 503,394 |
| May | 638,222 | 335,014 |
| June | 665,630 | 455,173 |
| July | 876,413 | 296,612 |
| August | 957,753 | 265,310 |
| September | 862,348 | 296,490 |
| October | 1,029,645 | 294,954 |
| November | 489,139 | 530,831 |
| December | 253,667 | 225,192 |
| January 1976 | 325,817 | 176,703 |
| Average | 693,724 | 336,031 |

liters x 3.785 = gallons

by excess irrigation water applied to adjacent agricultural lands. The influent flow pattern illustrated in Figure 9 indicates the peak inflow to the system occurs during the spring thaw period (i.e., February to May) and also during the peak summer irrigation period (i.e., July to September). Because of the ''lag time'' of flow in the groundwater system, the inflow to the sewer system continues through the fall into October. During the winter months (i.e., November to February) the influent flow is at a minimum because little or no runoff occurs nor is irrigation practiced on the adjacent agricultural land.

Based on the influent flowrate, the theoretical detention of the lagoon system should be approximately 2.6 times less than the 180 day retention time required by the State of Utah (Sudweeks, 1970). However, due to evaporation loss, the calculated theoretical hydraulic residence time is 146.3 days (see Table 7) which is only 33.7 days less or 18.7 percent than required by the State of Utah. There is no hydraulic residence time requirement connected with PL 92-500.

Dye studies were conducted on each lagoon to determine the actual hydraulic residence time in the system. The results are recorded in Table 7 and illustrated for each pond in Appendix A, Figures A-1 to A-7. The actual total hydraulic residence time for the system was found to be 88.3 days which is 49.1 percent of the 180 day requirement of the State of Utah. These dye studies were from December 1975 to July 1976 and thus represent the condition existing at that time. It is highly likely that the actual hydraulic residence times change throughout the year. However, this change would not alter these results significantly.

Table 7. Residence times.

| Pond No. | Dye Study Date | Theoretical Residence Time | Actual Residence Time | Dye Dispersion Chart Figure No. |
|---|---|---|---|---|
| 1 | 12-8-75/1-30-76 | 77.2 days | 35.1 days | A-1 |
| 2 | 5-10-76/6-23-76 | 9.1 days | 8.5 days | A-2 |
| 3 | 6-23-76/7-31-76 | 9.7 days | 6.7 days | A-3 |
| 4 | 5-10-76/6-23-76 | 10.4 days | 8.1 days | A-4 |
| 5 | 6-23-76/7-31-76 | 11.3 days | 9.0 days | A-5 |
| 6 | 5-10-76/6-23-76 | 12.2 days | 8.8 days | A-6 |
| 7 | 6-23-76/7-31-76 | 16.4 days | 12.1 days | A-7 |

Note: Theoretical residence times calculated from flows for the same periods during the year 1975. Correction was made for evaporation effect on flows in the latter ponds.

Correction was added to each pond for evaporation.

The average monthly effluent daily flowrates varied from 740,698 liters/day (195,693 gal/day) during March to 51,729 liters/day (13,667 gal/day) during January 1975. The yearly average monthly flowrate was 336,031 liters/day (88,780 gal/day) which was only 48.4 percent of the yearly average monthly influent flowrate. The low flowrate in January 1975 was due to the clogging of the lagoon system effluent pipe. The effluent pipe was clogged with debris from approximately January 15, 1975 to February 27, 1975. During this period a substantial amount of water had been backed up in the system. When the debris was removed, the stored water was released. Thus, the release of this stored water coupled within an increase in influent flow to the system caused the peak effluent flowrate to occur during March 1975. Again, the effluent pipe became plugged with debris between November 10, 1975 and November 19, 1975. Water was again stored in the system and it is believed that the peak effluent flowrate recorded for November 1975 was the result of releasing this stored water.

In summary, the hydraulic load to the lagoon system exceeded the design hydraulic flowrate by 2.62 times. This excessive hydraulic loading is most likely due to groundwater infiltration from agricultural irrigation and stormwater inflow into the sewage collection system. The effluent flowrates were affected by two separate periods when the effluent pipe from the lagoon system was plugged with debris. However, the yearly average effluent flowrate from the system is only 48.4 percent of the yearly average influent to the system.

## Biochemical Oxygen Demand ($BOD_5$)

The monthly average biochemical oxygen demand ($BOD_5$) performance for the lagoon system is reported in Table 8 and illustrated in Figure 10 for each pond in the system. A complete listing of the $BOD_5$ data is in Appendix B, Table B-1.

The influent monthly average $BOD_5$ ranged from a maximum of 139.93 mg/l to a minimum of 40.26 mg/l, with a mean of 74.62 mg/l. During the winter period,

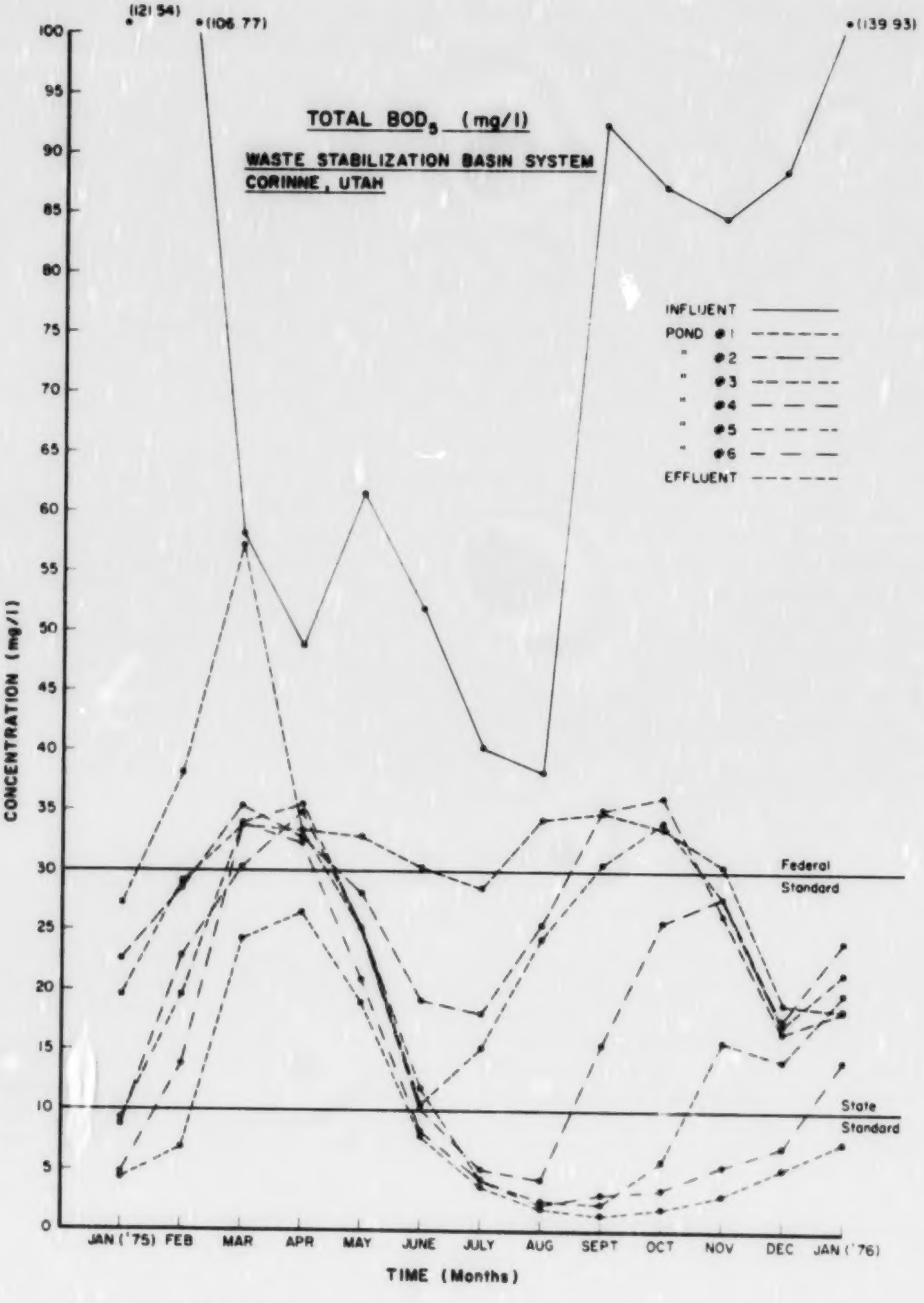

Figure 10. Monthly average biochemical oxygen demand (BOD$_5$) performance of the Corinne Waste Stabilization Lagoon System.

Table 8. Monthly average biochemical oxygen demand performance ($BOD_5$) of the Corinne Waste Stabilization Lagoon System.

TOTAL BOD(5) (MG/L) MONTHLY AVERAGES

| MONTH | INFLUENT | POND 1 | POND 2 | POND 3 | POND 4 | POND 5 | POND 6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| JAN-75 | 121.56 | 27.23 | 22.52 | 19.60 | 8.70 | 9.23 | 4.79 | 4.29 |
| FEB | 106.77 | 58.09 | 24.53 | 29.07 | 22.00 | 19.68 | 13.98 | 6.09 |
| MAR. | 58.12 | 57.33 | 35.36 | 33.72 | 39.23 | 33.98 | 33.07 | 24.27 |
| APR. | 60.06 | 53.66 | 32.00 | 33.39 | 36.97 | 35.55 | 32.33 | 26.53 |
| MAY | 61.52 | 42.02 | 20.06 | 25.27 | 25.25 | 25.00 | 20.97 | 19.00 |
| JUNE | 51.02 | 30.22 | 19.61 | 10.69 | 10.10 | 11.05 | 8.23 | 7.91 |
| JULY | 60.26 | 20.60 | 18.07 | 15.21 | 5.15 | 6.26 | 6.27 | 3.75 |
| AUG. | 38.21 | 14.23 | 25.59 | 20.63 | 6.35 | 2.52 | 2.36 | 1.98 |
| SEP. | 92.60 | 36.96 | 35.17 | 30.60 | 15.50 | 2.39 | 3.11 | 1.60 |
| OCT. | 87.16 | 33.56 | 36.20 | 36.10 | 25.77 | 5.03 | 3.61 | 1.09 |
| NOV. | 86.65 | 30.66 | 26.60 | 27.76 | 27.76 | 15.82 | 5.67 | 3.12 |
| DEC. | 88.42 | 19.00 | 16.69 | 17.00 | 17.62 | 16.36 | 7.06 | 5.39 |
| JAN-76 | 139.93 | 10.62 | 10.59 | 21.55 | 26.11 | 19.06 | 16.29 | 7.51 |

when the influent flowrate was low, $2.5 \times 10^5$ l/day (0.067 mgd), the $BOD_5$ concentration of the influent was high (121 mg/l). The coming of spring, ice thaw, spring rains, snow runoff and finally summer irrigation provided a significant increase in influent flow rate, $9.5 \times 10^5$ l/day (0.25 mgd). The summer period was then characterized by a diluted influent $BOD_5$. This trend of summer dilution and winter concentration of the influent flow was evidenced in many of the parameters.

Spring thaw was accompanied by hydraulic mixing in all of the ponds. This period, February to May, was characterized by rising influent flows with a corresponding dilution of the influent $BOD_5$, a resuspension of winter-settled organic materials by the overturning pond water, and an increase in pond temperature causing a rise in the metabolic rate of the entire pond ecosystem. The monthly average effluent $BOD_5$ concentration of Pond Number 1 was much higher (57.3 mg/l) than was the monthly average effluent $BOD_5$ concentration of the other ponds (see Figure 10). The other six ponds had average monthly effluent $BOD_5$ concentrations ranging from 26.5 mg/l (Pond Number 7) to 35.5 mg/l (Pond Number 5). Summer temperatures and the uptake of spring-mixing-generated organics supported an increase in treatment efficiency resulting in a marked drop in the $BOD_5$ concentrations of all the pond effluents except the effluent from Pond Number 1. Late summer and the end of the irrigation season caused the influent to become more concentrated. Following this concentrating was an increase in the $BOD_5$ level of the effluents from all of the ponds except Pond Numbers 6 and 7. Effluent $BOD_5$ concentration from all the ponds continued to rise throughout the fall until the colder weather caused the ponds to destratify and mix again. This fall overturn increased the effluent $BOD_5$ rise which was then followed by a sharp decline in effluent $BOD_5$ concentrations (see Figure 10).

Statistical analysis of the data indicated that the effluent $BOD_5$ concentrations from Pond Numbers 5, 6, and 7 were statistically alike (see Table 9). This would indicate that no significant difference in $BOD_5$ treatment is achieved by Pond Numbers 6 and 7 over that accomplished by Pond Number 5. However, the actual yearly mean concentration for Pond Number 7 was 8.91 mg/l, a

Table 9. Statistical comparison of average monthly effluent biochemical oxygen demand ($BOD_5$) performance of each pond in the Corinne Waste Stabilization Lagoon System.

| Total $BOD_5$ (mg/l) | Statistical Data | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| Mean | 74.6213 | 32.6366 | 26.9441 | 25.6559 | 20.1208 | 15.7376 | 12.0198 | 8.9129 |
| Standard Deviation | 62.6859 | 16.4630 | 9.7470 | 9.7385 | 12.6875 | 12.5434 | 11.7707 | 9.1696 |
| Coeff. of Var. | 0.8401 | 0.5044 | 0.3618 | 0.3796 | 0.6306 | 0.7970 | 0.9793 | 1.0288 |
| LSR(2) = 6.0000 | | | | | | | | |
| LSR(3) = 7.0000 | | | | | | | | |
| LSR(4) = 8.0000 | | | | | | | | |
| LSR(5) = 8.0000 | | | | | | | | |
| LSR(6) = 9.0000 | | | | | | | | |
| LSR(7) = 9.0000 | | | | | | | | |
| LSR(8) = 9.0000 | | | | | | | | |

[a] Means not underlined by a common line are significantly different.

decrease of 6.82 mg/l over the 15.73 mg/l yearly mean concentration for Pond Number 5. Also, Pond Number 7 was the only pond which remained below the federal standard (30 mg/l) throughout the entire year. Pond Numbers 4, 5, and 6 also remained below the federal standard (30 mg/l) except during the spring overturn period when they exceeded the standard by approximately 5 mg/l over a three month period (March, April, May, 1975). The only pond to comply with the Utah State standard of 10 mg/l was Pond Number 7. However, it exceeded the Utah State standard during the spring overturn period for nearly four months (February to May 1975). All of the other ponds exceeded the state standard for longer periods of time.

The overall $BOD_5$ treatment efficiency of the system is reported in Table 10. The $BOD_5$ treatment efficiency ranged from 47.7 percent during April 1975 to 97.8 percent during October 1975. The yearly average treatment efficiency was 88.06 percent. The system failed to satisfy the 85 percent removal requirement of PL 92-500 during four of the 13 months studied. However, as discussed earlier, the system never exceeded a final effluent $BOD_5$ concentration of 30 mg/l. The ability of the system to satisfy the 85 percent removal requirement appears to be more dependent on the raw sewage influent $BOD_5$ concentration than on the final system effluent $BOD_5$ concentration.

Table 10. Treatment efficiency of Corinne Waste Stabilization Lagoon System with respect to biochemical oxygen demand ($BOD_5$).

| Month | Monthly Average $BOD_5$ Influent (mg/l) | Monthly Average $BOD_5$ Effluent (mg/l) | Treatment Efficiency (%) |
|---|---|---|---|
| January 1975 | 121.54 | 4.29 | 96.4 |
| February | 106.77 | 6.89 | 93.5 |
| March | 58.12 | 24.27 | 58.2 |
| April | 48.86 | 25.53 | 47.7 |
| May | 61.52 | 19.00 | 69.1 |
| June | 51.82 | 7.91 | 84.7 |
| July | 40.26 | 3.75 | 90.7 |
| August | 38.21 | 1.98 | 94.8 |
| September | 92.48 | 1.40 | 92.4 |
| October | 87.16 | 1.89 | 97.8 |
| November | 84.65 | 3.12 | 96.3 |
| December | 88.42 | 5.39 | 93.9 |
| January 1976 | 139.93 | 7.51 | 94.6 |

The organic loading on the primary cell (Pond Number 1) of the system is shown in Table 11. The organic load ranged from 15.1 kg $BOD_5$/ha/day (13.4 lbs $BOD_5$/acre/day) to 60.2 kg $BOD_5$/ha/day (53.6 lbs $BOD_5$/acre/day). The yearly average organic load to the primary cell was 33.6 kg $BOD_5$/ha/day (29.9 lbs $BOD_5$/acre/day). The system was designed for an organic load of 36.2 kg $BOD_5$/ha/day (32.2 lbs $BOD_5$/acre/day). On a yearly basis the system was not organically loaded beyond the design capacity. However, during three of the 13 months studied, the organic loading rate did exceed the design capacity. Each of these three months (February, September, October) were during periods of the year when the lagoon system should have been less able to assimilate the overload. However, during each of these months the final effluent $BOD_5$ concentrations were less then 10 mg/l. Thus, it appears that the 36.2 kg $BOD_5$/ha/day (32.2 lbs $BOD_5$/acre/day) used to design the system was at least adequate and may be somewhat conservative.

In summary, the $BOD_5$ influent to the Corinne system was effectively reduced to levels acceptable to the federal standard (i.e. 30 mg/l), and to the state standard (10 mg/l) the majority of the time. Effluent $BOD_5$ levels were subject to mixing conditions both in spring and fall causing all pond effluents except Pond Number 7 effluent to reach unacceptable levels. Winter effluent $BOD_5$ concentrations were acceptable with respect to the federal and state

Table 11. Average monthly organic loading rate on the primary cell (Pond Number 1) of the Corinne Waste Stabilization System.

| Month | Average Organic Loading (kg/ha/day) |
|---|---|
| January 1975 | 33.4 |
| February | 57.3 |
| March | 36.2 |
| April | 25.6 |
| May | 26.3 |
| June | 23.1 |
| July | 23.6 |
| August | 24.6 |
| September | 53.5 |
| October | 60.2 |
| November | 27.8 |
| December | 15.1 |
| January 1976 | 30.6 |
| Yearly Average | 33.6 |

kg/ha/day x 0.89 = lbs/acre/day

standards. These concentrations were also lower than effluent $BOD_5$ concentrations during other portions of the year. Finally, statistical analysis showed little improvement in $BOD_5$ removal beyond that attained by Pond Number 5.

## Soluble Biochemical Oxygen Demand ($SBOD_5$)

The monthly average effluent Soluble Biochemical Oxygen Demand ($SBOD_5$) conentrations for each of the ponds in the system are reported in Table 12 and shown graphically in Figure 11. A complete listing of the individual data points is in Appendix B, Table B-2. The monthly average effluent $SBOD_5$ for the entire system (Pond Number 7) varied from 1.19 mg/l to 4.69 mg/l with a yearly average value of 2.86 mg/l. This is 46.0 percent less than the final effluent total $BOD_5$ (see Table 10). However, both values are less than 10 mg/l and therefore any difference between them is relatively insignificant.

The seasonal variation in effluent $SBOD_5$ concentration is similar for each of the seven ponds. The greatest variations occurred in the effluent from Pond Number 1.

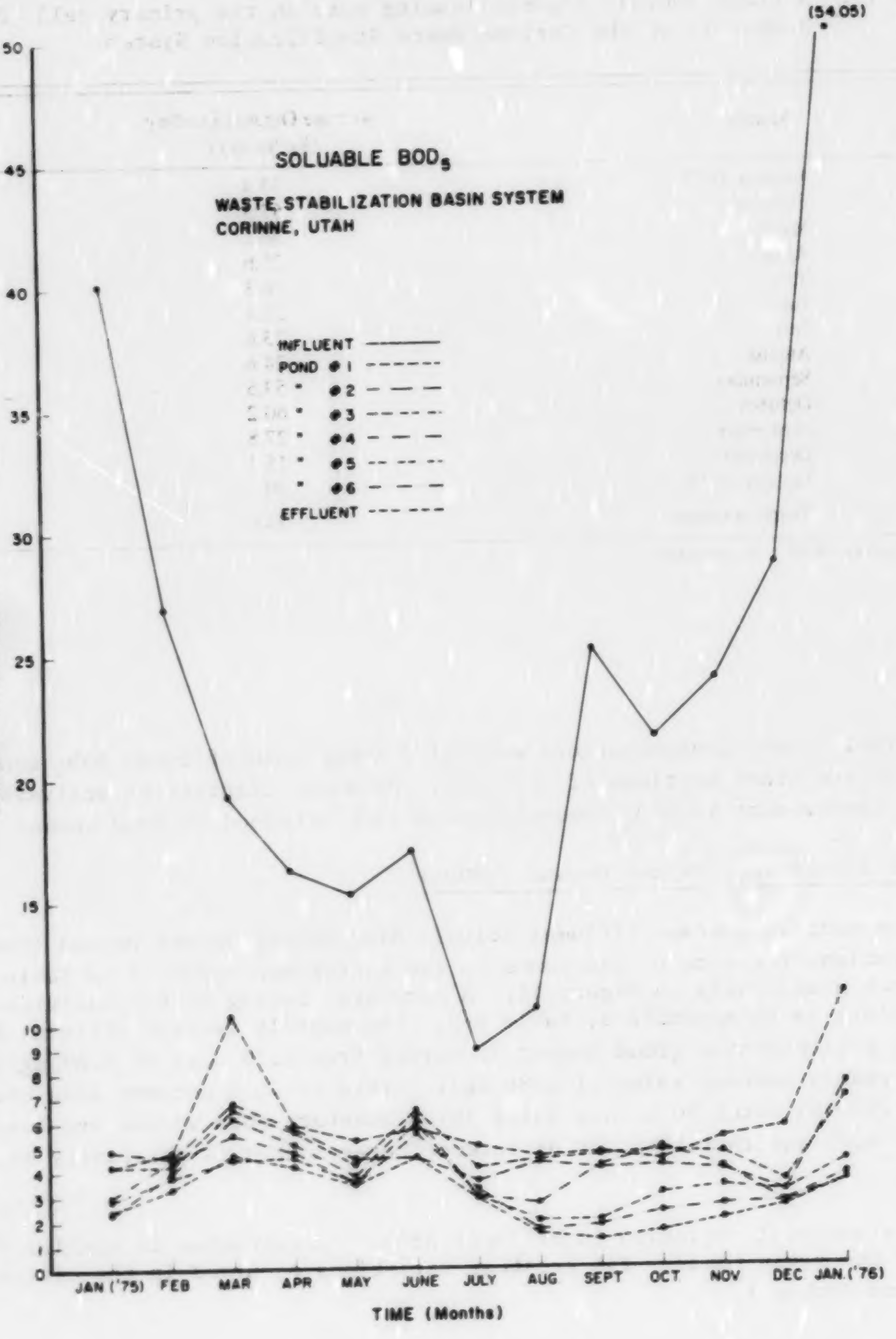

Figure 11. Monthly average soluble biochemical oxygen demand ($SBOD_5$) performance of the Corinne Waste Stabilization Lagoon System.

Table 12. Monthly average soluble biochemical oxygen demand ($SBOD_5$) performance of the Corinne Waste Stabilization Lagoon System.

SOLUABLE BOD(5) (MG/L) MONTHLY AVERAGES

| MONTH | INFLUENT | POND 1 | POND 2 | POND 3 | POND 4 | POND 5 | POND 6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| JAN-75 | 40.17 | 4.26 | 4.03 | 4.22 | 2.34 | 2.73 | 2.93 | 2.36 |
| FEB | 26.00 | 4.75 | 4.55 | 4.25 | 6.00 | 3.75 | 4.58 | 3.25 |
| MAR. | 19.22 | 10.39 | 6.77 | 6.54 | 6.16 | 4.51 | 5.67 | 4.69 |
| APR. | 16.21 | 5.83 | 5.71 | 5.64 | 5.03 | 4.61 | 4.75 | 4.18 |
| MAY | 15.24 | 5.23 | 4.50 | 4.27 | 3.76 | 3.62 | 3.66 | 3.44 |
| JUNE | 17.06 | 5.76 | 4.52 | 6.63 | 6.21 | 5.98 | 5.69 | 4.60 |
| JULY | 8.98 | 4.96 | 3.62 | 4.16 | 2.96 | 2.92 | 3.24 | 2.05 |
| AUG. | 10.65 | 4.64 | 4.34 | 4.35 | 2.69 | 1.94 | 1.60 | 1.45 |
| SEP. | 25.17 | 4.70 | 4.15 | 4.68 | 4.15 | 1.91 | 1.73 | 1.19 |
| OCT. | 21.69 | 4.35 | 4.19 | 4.76 | 4.06 | 3.08 | 2.28 | 1.69 |
| NOV. | 23.91 | 5.23 | 4.01 | 4.66 | 4.03 | 3.30 | 2.62 | 1.96 |
| DEC. | 20.67 | 3.67 | 3.50 | 3.44 | 2.60 | 3.12 | 2.69 | 2.44 |
| JAN-76 | 50.16 | 9.48 | 5.29 | 5.06 | 4.11 | 3.67 | 3.19 | 3.26 |

All of the pond effluents showed variations in $SBOD_5$ concentrations similar to those variations in Pond Number 1 being somewhat more pronounced than those of the other ponds (see Figure 12). A maximum separation of 6 mg/l was experienced between all of the pond effluent $SBOD_5$ concentrations during January 1976, and a minimum separation of 2 mg/l was found during most of the spring and early summer period. A slight general rise in pond effluent $SBOD_5$ concentration occurred during the spring period from February to May, 1975, with another rise occurring in June, 1975, followed by a decrease in the effluent $SBOD_5$ concentrations of Pond Numbers 5, 6, and 7. The other ponds remained basically unchanged.

The sharp spring and fall effluent $BOD_5$ peaks (see Figure 10) with little corresponding increase in effluent $SBOD_5$ concentration (see Figure 11), indicated that the majority of the material causing these peaks is of an insoluble nature. The spring peak can be partially attributed to settled organics brought into circulation by the spring overturn. The fall period was characterized by heavy plant growth in all of the ponds which may have provided additional insoluble $BOD_5$.

Statistical analysis of the effluent $SBOD_5$ concentrations for each pond (Table 13) indicated no significant change in $SBOD_5$ removal beyond Pond Number 4. However, all of the ponds provided significant reductions in the $SBOD_5$ levels. By comparison with the $BOD_5$ treatment levels achieved in the Corinne system, it can be seen that the $SBOD_5$ treatment efficiency is far more effective and less subject to upset.

There are no federal or state discharge standards for $SBOD_5$ nor was the system design based on any $SBOD_5$ criteria.

In summary, removal of $SBOD_5$ was not accomplished beyond Pond Number 4. In general, $SBOD_5$ concentrations are low (less than 10 mg/l) throughout the entire lagoon system.

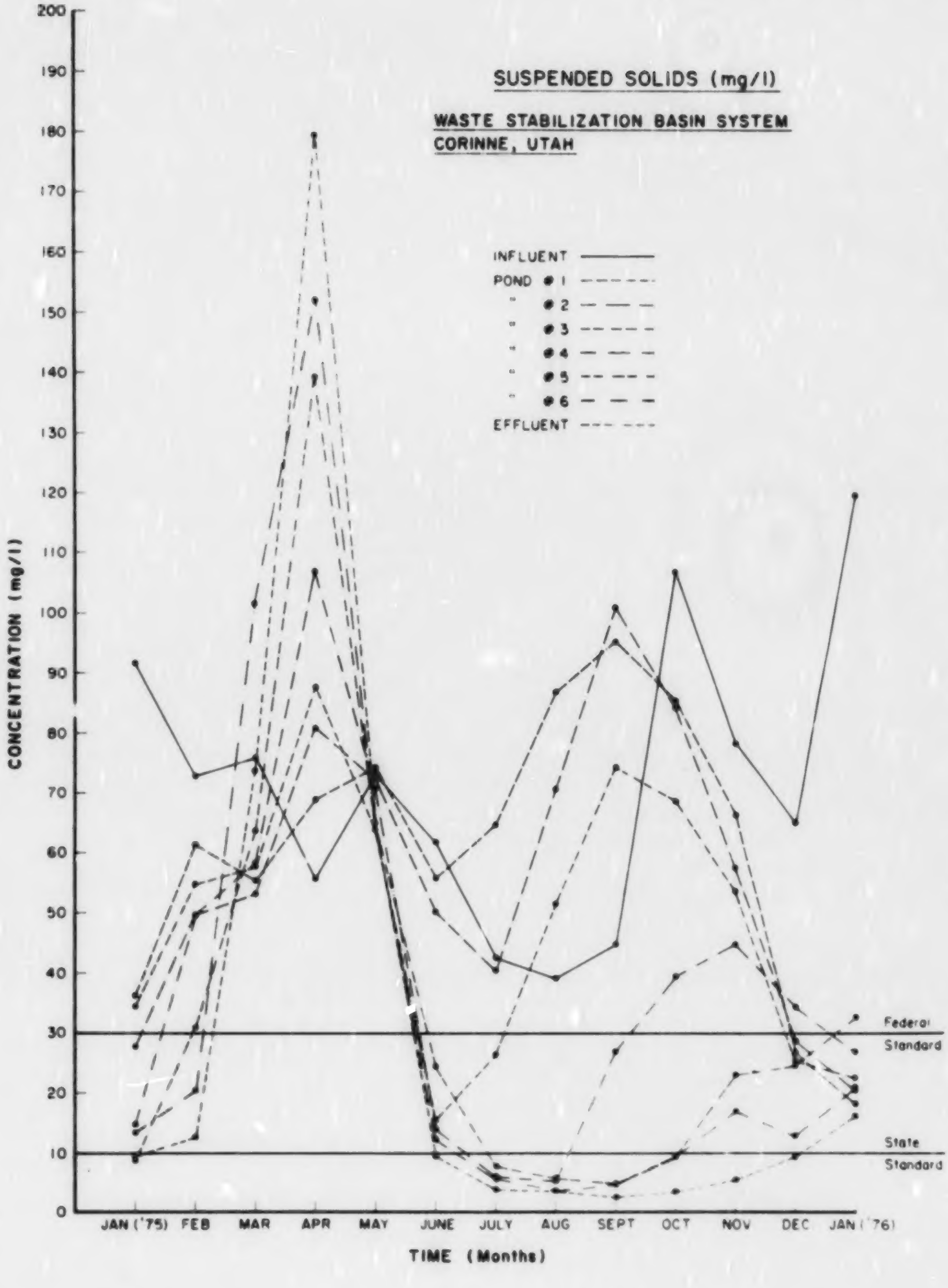

Figure 12. Monthly average suspended solids performance of each pond in the Corinne Waste Stabilization Lagoon System.

Table 13. Statistical comparison of the average yearly effluent soluble biochemical oxygen demand ($SBOD_5$) performance of each pond in the Corinne Waste Stabilization Lagoon System.

| Soluble $BOD_5$ (mg/l) | Statistical Data | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| Mean | 21.3579 | 5.5173 | 4.5540 | 4.7327 | 4.0287 | 3.4426 | 3.4035 | 2.8178 |
| Standard Deviation | 15.8719 | 2.6827 | 1.6391 | 1.5558 | 1.6261 | 1.4847 | 1.9637 | 1.4563 |
| Coeff. of Var. | 0.7431 | 0.4862 | 0.3599 | 0.3287 | 0.4036 | 0.4313 | 0.5770 | 0.5168 |

LSR(2) = 1.0000
LSR(3) = 1.0000
LSR(4) = 2.0000
LSR(5) = 2.0000
LSR(6) = 2.0000
LSR(7) = 2.0000
LSR(8) = 2.0000

[a] Means not underlined by a common line are significantly different.

## Suspended Solids (SS)

The monthly average suspended solids concentration for the raw sewage influent and the effluent for each pond in the system is reported in Table 14 and illustrated in Figure 12. A complete listing of the individual suspended solids data is shown in Appendix B, Tables B-3.

The monthly average raw sewage influent suspended solids (SS) concentration ranged from 39.12 mg/l in August to 119.76 mg/l in January 1976 with a yearly average of 71.3 mg/l. The raw sewage influent suspended solids concentration was closely related to the raw sewage influent flowrate (see Figure 9). As the raw sewage influent flowrate increased the influent raw sewage suspended solids concentration tended to decrease. This relationship supports

Table 14. Monthly average suspended solids performance of each pond in the Corinne Waste Stabilization Lagoon System.

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SUSPENDED SOLIDS  (MG/L)              MONTHLY AVERAGES

       MONTH        INFLUENT    POND 1     POND 2     POND 3     POND 4     POND 5     POND 6    EFFLUENT

       JAN-75         91.55      66.10      27.83      16.28      16.76       8.71      13.30       9.11
       FEB            72.82      61.28      69.76      56.69      67.21      30.75      26.51      17.51
       MAR.           75.99      55.25      51.22      57.06      58.13      61.66     101.51      73.69
       APR.           55.79      64.96      80.89      87.87     108.75     130.17     152.01     179.26
       MAY            73.07   [illegible]   72.17      63.33      70.83      66.03      65.01      66.98
       JUNE           61.89      55.01      90.06      35.30      13.76      89.37      12.80       9.36
       JULY           42.58      64.74      40.16      26.16       5.99       7.65       5.66       3.02
       AUG.           39.12      86.76      70.57      51.95       5.21       5.67       3.67       3.66
       SEP.           44.70      95.38     100.94      74.30      26.73       6.86       6.96       2.53
       OCT.          106.97      45.26      84.13      68.60      19.27       9.18       9.29       3.51
       NOV.           78.21      46.37      57.95      51.95      66.77      23.00      16.02       5.26
       DEC.           65.06      76.76      20.52      75.13      36.30      26.57      12.00       5.07
       JAN-76        119.76      18.10      20.61      22.51      26.65      30.65      20.90      16.07
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the notion that the raw sewage influent was significantly affected by infiltration and inflow. In general, the raw sewage influent suspended solids concentration was less than expected for a typical domestic sewage.

The final effluent monthly average suspended solids concentration (Pond Number 7) varied from 2.53 mg/l in September to 179.24 mg/l in April with a yearly average concentration of 33.69 mg/l. The yearly average final effluent suspended solids concentration (i.e. 30.2 mg/l) is somewhat misleading in that during eight of the 13 months studied the monthly average final effluent suspended solids concentration never exceeded 10 mg/l and in fact, during only three of the 13 months studied did the monthly average final effluent suspended solids concentration exceed 30 mg/l (see Figure 12 and Table 14).

The peak monthly average final effluent suspended solids concentration (179.24 mg/l in April) occurred during the spring overturn. The effluent suspended solids concentration for all of the ponds in the system increased significantly during this period. Although the same phenomenon occurred during the fall overturn period (November), the increase in effluent suspended solids concentration was not as dramatic as it was during the spring overturn. The influence of the fall overturn was found in the effluent suspended solids concentrations measured by Pond Numbers 1, 2, 3, and 4. The effluent from Pond Number 1 had the highest fall concentration (95.38 mg/l). A sharp decline was seen in the effluent from Pond Numbers 1 through 4 at the onset of cold weather. The suspended solids concentrations plotted in Figure 12 correspond very closely to the effluent $BOD_5$ concentrations plotted in Figure 10.

A statistical comparison of the average monthly effluent suspended solids concentration for each pond in the system is presented in Table 15. The analysis indicated that there was no significant difference (95 percent level) in the effluent suspended solids concentration from Pond Numbers 4, 5, 6, and 7. Thus, statistically, no additional suspended solids removal occurred beyond Pond Number 4. However, inspection of Figure 12 clearly illustrates that Pond Numbers 5, 6, and 7 did provide meaningful suspended solids removal during September, October, November, and December. Thus, it appears that the additional ponds did provide a measure of protection during the fall overturn period.

The suspended solids performance of the system with respect to both federal (PL 92-500) and State of Utah requirements is illustrated in Figure 12 and reported in Table 16. The final effluent suspended solids concentration was 30.2 mg/l which is slightly in violation of the federal standard of 30.0 mg/l. However, the federal standard is based on the monthly average effluent suspended solids concentration and as reported earlier during only three of the 13 months studied was the monthly average effluent suspended solids concentration greater than 30.0 mg/l. Table 16 indicates the suspended solids removal efficiency of the system. The yearly average suspended solids removal efficiency was only 51.47 percent. However, the system failed to remove 85 percent of the raw sewage influent suspended solids concentration during only five of the 13 months studied. The system satisfied the State of Utah's effluent suspended solids standard of 10 mg/l during eight of the 13 months studied. During the summer months (June to September) of peak algal activity, the final effluent suspended solids concentration averaged 3.3 mg/l. This indicates

Table 15. Statistical comparison of the average yearly effluent suspended solids performance of each pond in the Corinne Waste Stabilization Lagoon System.

| Suspended Solids (mg/l) | Statistical Data | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| Mean | 69.4248 | 65.4995 | 59.4109 | 52.1510 | 41.4703 | 36.4861 | 36.0178 | 33.6936 |
| Standard Deviation | 72.4173 | 24.3590 | 30.5959 | 25.9275 | 33.0734 | 46.1415 | 65.7585 | 58.8579 |
| Coeff. of Var. | 1.0431 | 0.3719 | 0.5150 | 0.4972 | 0.7975 | 1.2646 | 1.8257 | 1.7469 |

LSR(2) = 9.0000
LSR(3) = 11.0000
LSR(4) = 12.0000
LSR(5) = 13.0000
LSR(6) = 14.0000
LSR(7) = 14.0000
LSR(8) = 15.0000

[a] Means not underlined by a common line are significantly different.

Table 16. Treatment efficiency of the Corinne Waste Stabilization Lagoon System with respect to suspended solids (SS).

| Month | Monthly Average SS | | Treatment Efficiency (%) |
|---|---|---|---|
| | Influent (mg/l) | Effluent (mg/l) | |
| January 1975 | 91.53 | 9.13 | 90.0 |
| February | 72.82 | 12.53 | 82.7 |
| March | 75.99 | 73.69 | 3.0 |
| April | 55.79 | 179.24 | -221.3 |
| May | 73.07 | 64.93 | 11.1 |
| June | 61.89 | 9.36 | 84.8 |
| July | 42.58 | 3.92 | 90.8 |
| August | 39.12 | 3.46 | 91.2 |
| September | 44.70 | 2.53 | 94.3 |
| October | 106.97 | 3.51 | 96.7 |
| November | 78.21 | 5.26 | 93.3 |
| December | 65.06 | 9.02 | 86.1 |
| January 1976 | 119.76 | 16.07 | 86.6 |

that algae were not a problem in satisfying discharge requirements during the summer months for this particular system.

Volatile Suspended Solids (VSS)

The monthly average effluent volatile suspended solids (VSS) concentration from each pond in the system is reported in Table 17 and shown graphically

Table 17. Monthly average volatile suspended solids performance of each pond in the Corinne Waste Stabilization Lagoon System.

VOLATILE SUSPENDED SOLIDS (MG/L) MONTHLY AVERAGES

| MONTH | INFLUENT | POND 1 | POND 2 | POND 3 | POND 4 | POND 5 | POND 6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| JAN-75 | 72.72 | 60.00 | 25.60 | 28.61 | 9.93 | 6.15 | 6.11 | 3.00 |
| FEB | 40.95 | 53.93 | 44.32 | 44.36 | 40.05 | 26.21 | 15.13 | 6.61 |
| MAR. | 33.95 | 67.00 | 44.65 | 44.90 | 63.99 | 62.28 | 30.29 | 26.89 |
| APR. | 32.75 | 53.65 | 57.04 | 62.36 | 67.44 | 70.00 | 57.90 | 51.79 |
| MAY | 40.50 | 61.47 | 55.77 | 47.80 | 51.39 | 44.03 | 10.76 | 12.49 |
| JUNE | 40.30 | 43.00 | 34.56 | 7.12 | 8.64 | 0.36 | 3.65 | 5.16 |
| JULY | 29.92 | 53.09 | 32.13 | 17.95 | 3.60 | 6.31 | 2.40 | 1.86 |
| AUG. | 20.53 | 71.89 | 55.27 | 44.16 | 3.80 | 3.10 | 1.60 | 1.57 |
| SEP. | 32.00 | 80.04 | 82.15 | 60.06 | 21.97 | 2.02 | 2.52 | 1.01 |
| OCT. | 77.87 | 71.11 | 75.22 | 61.86 | 33.99 | 5.71 | 3.53 | 2.13 |
| NOV. | 62.31 | 57.01 | 52.15 | 47.51 | 37.55 | 16.02 | 6.25 | 2.42 |
| DEC. | 50.00 | 21.70 | 23.52 | 22.60 | 26.53 | 17.72 | 0.16 | 6.21 |
| JAN-76 | 77.56 | 15.16 | 17.07 | 17.06 | 20.17 | 23.15 | 16.50 | 9.96 |

in Figure 13. A complete listing of the data is presented in Appendix B, Table B-4.

A comparison of Figures 12 and 13 shows the relationship between the suspended solids and volatile suspended solids levels, the VSS yearly concentrations averages ranged from 54.55 mg/l to 12.45 mg/l for the various ponds. Although SS and VSS show peaks during identical periods of the year, the volatile portion of the SS is higher during the fall overturn period than during the spring overturn. This indicates a higher proportion of inorganic SS material present during the early periods of the year, particularly during spring overturn. This increase in proportion seems to be attenuated as the water moves through the system. Though no exact explanation was determined for the recorded change in SS and VSS levels, one possible answer would be that proposed by Porcella et al. (1970). During the early spring when sunlight penetrates the lower depths of the lagoon, it is possible for algal growth to occur on the bottom of shallow lagoons (i.e. depth less than 1 m). This algal photosynthesis produces gases which eventually cause the algal mat to rise to the surface of the lagoon, increasing the SS on the surface. The SS concentration is therefore composed of suspended algal cells from the bottom materials transported to the surface by the rising algal mats. The bottom algal mats which rose to the surface generally contain a high portion of inorganic matter. Thus, this inorganic portion of the bottom materials may account for the unexplained rise in the nonvolatile portion of the spring SS peaks.

Statistical analysis of effluent VSS concentrations from Pond Numbers 5, 6, and 7 were found to be of the same population (see Table 18). This indicates that no statistically significant additional treatment in VSS removal is attained by the ponds beyond Pond Number 5.

In summary, Figure 14 shows the wide variation of the VSS levels during the year. All of the ponds follow patterns similar to those of the SS, the peaks in both the SS and VSS curves being generated by the turbulence of spring and fall mixing together with the high algal growth experienced during portions of the year. Effective volatile suspended solids removal is not achieved

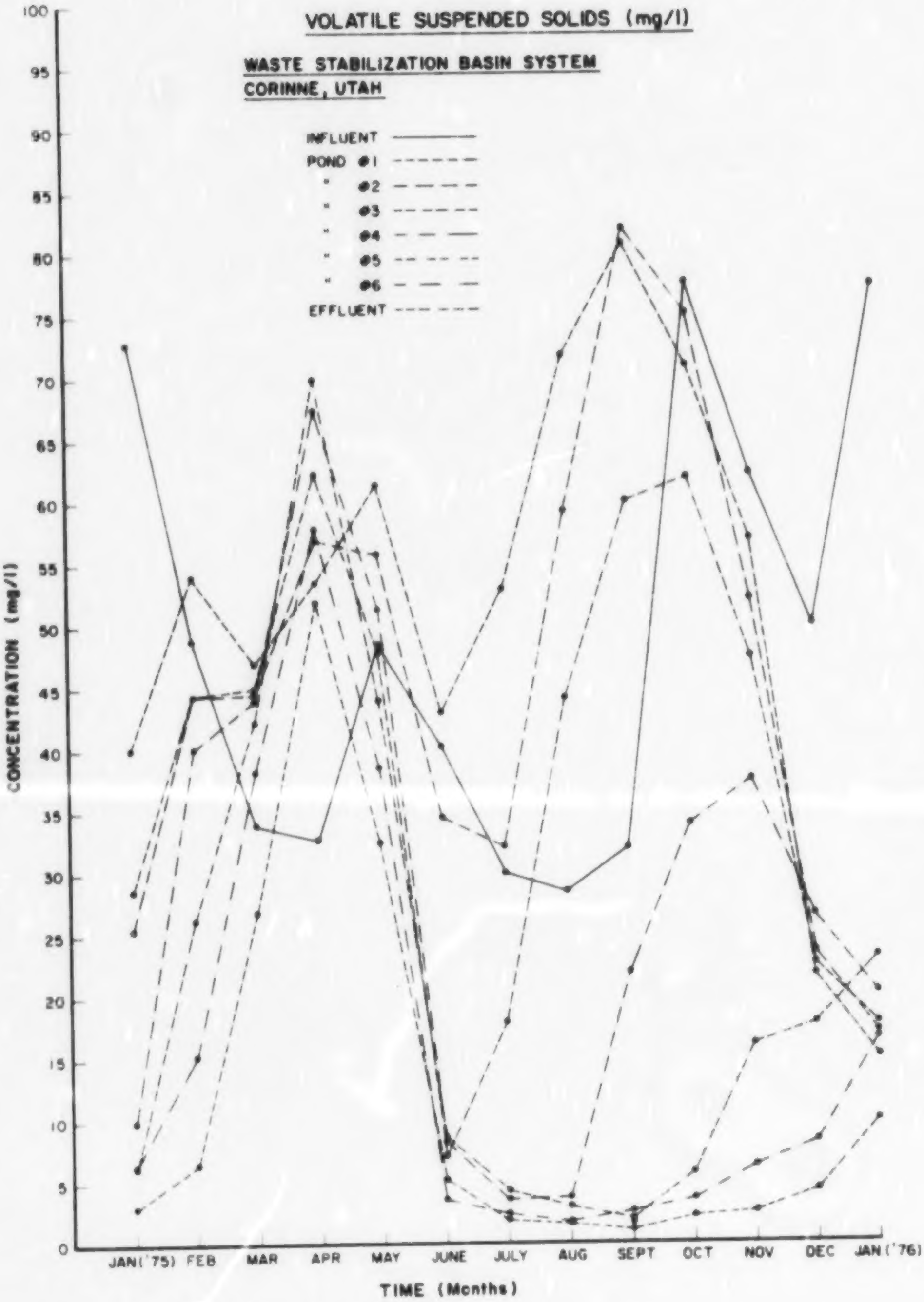

Figure 13. Monthly average volatile suspended solids performance of each pond in the Corinne Waste Stabilization Lagoon System.

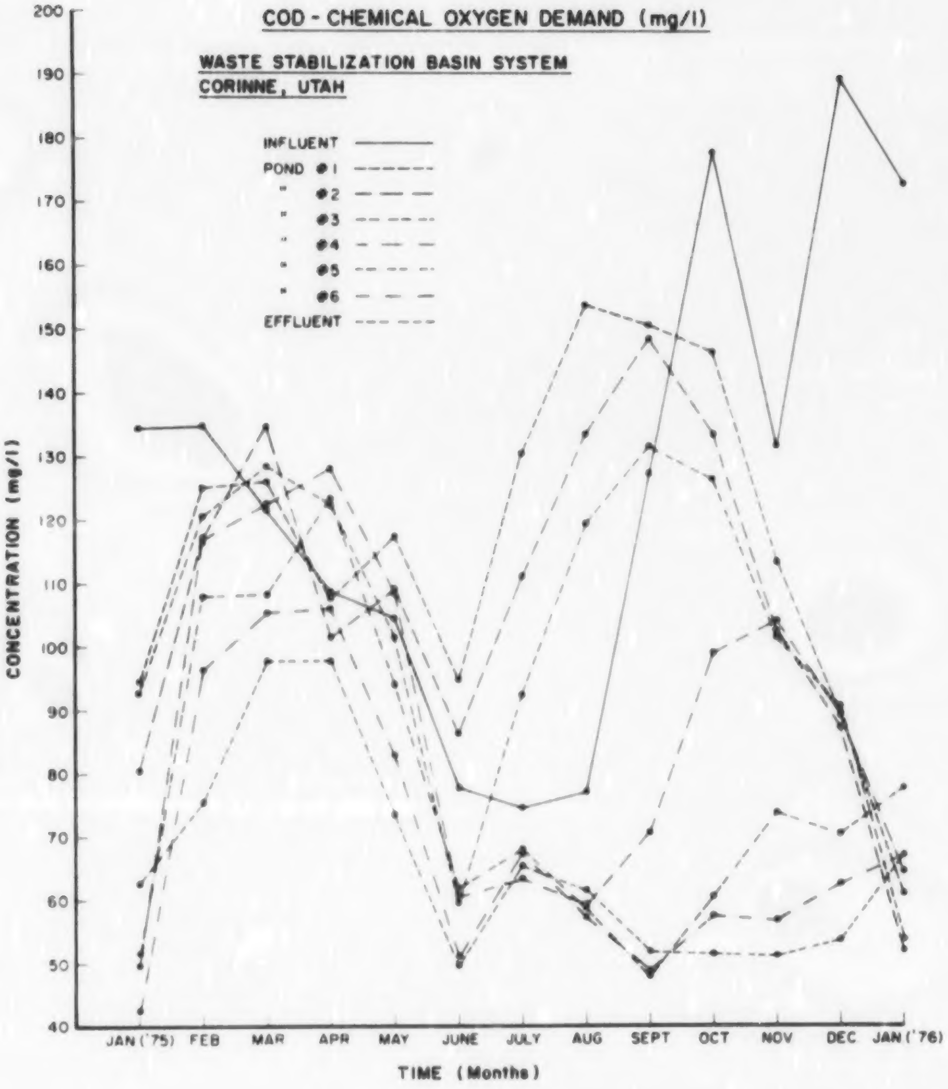

Figure 14. Monthly average chemical oxygen removal performance of each pond in the Corinne Waste Stabilization Lagoon System.

Table 18. Statistical comparison of the average yearly effluent volatile suspended solids performance of each pond in the Corinne Waste Stabilization Lagoon System.

| Volatile Suspended Solids (mg/l) | Statistical Data | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| Mean | 47.8767 | 54.5525 | 48.7520 | 41.6772 | 30.7698 | 22.3416 | 16.5446 | 12.4470 |
| Standard Deviation | 47.5587 | 21.9741 | 29.0996 | 22.2124 | 24.5824 | 25.2576 | 22.8209 | 19.2855 |
| Coeff. of Var. | 0.9934 | 0.4028 | 0.5969 | 0.5330 | 0.7989 | 1.1305 | 1.3794 | 1.5494 |

LSR(2) = 6.0000
LSR(3) = 7.0000
LSR(4) = 8.0000
LSR(5) = 8.0000
LSR(6) = 9.0000
LSR(7) = 9.0000
LSR(8) = 9.0000

[a]Means not underlined by a common line are significantly different.

beyond Pond Number 5. Currently, no state or federal discharge standard has been established for effluent volatile suspended solids performance.

Chemical Oxygen Demand (COD)

The monthly average effluent chemical oxygen demand (COD) concentration for each pond is presented in Table 19 and illustrated in Figure 14. A complete listing of the data is found in Appendix B, Table B-5.

Pond effluent COD concentrations varied throughout the year. Pond Number 1 reached the highest effluent monthly average concentration of 178.00 mg/l in August 1975, while Pond Number 6 had the lowest effluent monthly average concentration of 42.56 mg/l in January 1975. Yearly mean effluent concentrations indicated a continual decline in COD as the wastewater passed through the system. Beginning with a mean concentration of 121.52 mg/l for the influent, a 55.3 percent reduction in COD was achieved throughout the system, the final effluent COD concentration being 67.19 mg/l.

Each pond experienced an increase in effluent COD concentration during the spring period following a pattern related to that of the $BOD_5$ shown in Figure 10. Following spring overturn all pond effluent COD concentrations declined reaching a low value in June. Pond Numbers 1, 2, and 3 increased rapidly to a peak effluent concentration in September with values higher than those achieved during the spring period with effluent monthly average concentrations ranging from 131.8 mg/l to 150.8 mg/l. The fall rise in the effluent COD concentration of Pond Number 4 lagged two months behind the rise measured in the effluent of the first three ponds. Although Pond Numbers 5, 6, and 7 experienced a slight rise in effluent COD concentrations during July, they continued to hold to concentrations in the range of 45 mg/l to 70 mg/l throughout the remainder of the year. With the onset of winter and ice conditions, low effluent COD values were observed for all of the ponds with concentrations ranging from 50 mg/l to 80 mg/l.

Table 19. Monthly average chemical oxygen demand performance of each pond in the Corinne Waste Stabilization Lagoon System.

| COD (MG/L) | | | FROM EPA LAB MONTHLY AVERAGES | | | | | |
|---|---|---|---|---|---|---|---|---|
| MONTH | INFLUENT | POND 1 | POND 2 | POND 3 | POND 4 | POND 5 | POND 6 | EFFLUENT |
| JAN-75 | 136.33 | 104.44 | 80.33 | 92.67 | 69.67 | 51.70 | 62.56 | 62.89 |
| FEB | 136.63 | 124.96 | 116.50 | 120.63 | 117.33 | 100.00 | 96.15 | 75.56 |
| MAR. | 121.60 | 126.20 | 136.00 | 128.70 | 123.50 | 100.10 | 135.10 | 97.83 |
| APR. | 100.76 | 107.01 | 103.69 | 122.40 | 129.13 | 125.05 | 106.13 | 97.81 |
| MAY | 104.53 | 117.67 | 109.11 | 101.76 | 108.59 | 96.00 | 82.79 | 73.69 |
| JUNE | 77.70 | 76.90 | 96.35 | 59.70 | 60.20 | 61.70 | 51.00 | 69.83 |
| JULY | 76.67 | 110.52 | 111.00 | 92.57 | 65.13 | 67.01 | 67.62 | 65.10 |
| AUG. | 77.05 | 153.09 | 131.67 | 119.60 | 59.11 | 50.06 | 57.21 | 61.67 |
| SEP. | 127.50 | 150.00 | 140.40 | 131.00 | 70.53 | 60.00 | 60.93 | 51.90 |
| OCT. | 170.00 | 146.33 | 133.83 | 126.70 | 99.11 | 60.39 | 57.39 | 51.44 |
| NOV. | 131.73 | 113.50 | 102.50 | 101.66 | 106.36 | 73.60 | 56.89 | 51.16 |
| DEC. | 109.44 | 89.00 | 87.11 | 90.67 | 89.22 | 70.22 | 67.56 | 53.56 |
| JAN-76 | 173.20 | 61.00 | 52.00 | 51.70 | 66.63 | 77.70 | 67.00 | 67.00 |

The results of the statistical analysis to determine if a significant increase in COD removal is accomplished as wastewater passes through the system is reported in Table 20. The analysis indicated that there was no significant difference (95 percent level) in COD concentrations in (i) the influent and Pond Number 1 effluent; (ii) Pond Number 2 effluent and Pond Number 3 effluent; (iii) Pond Number 5 effluent and Pond Number 6 effluent; and (iv) Pond Number 6 effluent and Pond Number 7 effluent. Therefore, statistically, all of the ponds provided some measure of COD removal except Pond Number 7. Thus, Pond Number 7 could be eliminated from the system without a significant increase in the final effluent chemical oxygen demand concentration.

The overall reduction in the COD concentrations in the Corinne system was 55.3 percent for the entire study. COD showed the effects of spring and fall overturns with the final two ponds in the series producing treatment of a similar nature. Currently, there is no federal or state discharge requirement for chemical oxygen demand.

Table 20. Statistical comparison of the average yearly effluent chemical oxygen demand (COD) performance of each pond in the Corinne Waste Stabilization Lagoon System.

| COD (mg/l) | From EPA Lab Statistical Data | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| Mean | 121.5198 | 120.5990 | 110.1733 | 106.5594 | 91.7624 | 80.5198 | 72.1337 | 67.1881 |
| Standard Deviation | 88.0774 | 44.8428 | 40.1108 | 37.1831 | 37.6875 | 35.0579 | 29.4118 | 25.9980 |
| Coeff. of Var. | 0.7248 | 0.3718 | 0.3641 | 0.3489 | 0.4107 | 0.4354 | 0.4077 | 0.3869 |

LSR(2) = 9.0000
LSR(3) = 11.0000
LSR(4) = 12.0000
LSR(5) = 13.0000
LSR(6) = 14.0000
LSR(7) = 14.0000
LSR(8) = 15.0000

[a] Means not underlined by a common line are significantly different.

## Soluble Chemical Oxygen Demand (SCOD)

The monthly average effluent soluble chemical oxygen demand (SCOD) concentrations for each pond in the system are reported in Table 21 and illustrated in Figure 15. A complete listing of the data is presented in Appendix B, Table B-6.

Influent dilution of the soluble chemical oxygen demand (SCOD) can be seen in Figure 15 as the influent SCOD varied from 70.60 mg/l in the winter to 35.00 mg/l in the summer. Though SCOD levels were reduced by treatment in the pond system, the maximum reduction occurred in Pond Number 2 rather than Pond Number 7. Yearly average effluent SCOD concentrations were 48.21 mg/l, 42.33 mg/l, and 46.34 mg/l for the influent, Pond Number 2 and Pond Number 7, respectively.

The effluent SCOD concentrations of each pond increased during the early spring, just prior to the spring overturn, and throughout most of the summer. This indicates increases in soluble organic compounds during these times of the year. Such increases can be attributed to the biological activity in the ponds and the output of soluble organics by the metabolic activity of the microorganisms in the system.

The spring rise in the SCOD concentration of the effluent from each pond occurs earlier in the year (February 1975) than does the peak for most parameters (April 1975). The exceptions are alkalinity and ammonia nitrogen ($NH_3$-N) which also peaked early in the spring. This combination of early spring peaking followed by a decline in concentrations during the period when all of the other parameters are peaking may be explained as follows.

During the winter period biological activity becomes altered due to low temperatures and reduced sunlight conditions. This combination generates a low xygen condition in the lagoon water, particularly in the lower depths of the lagoons. A slow buildup of nutrients which are not assimilated into any microorganisms occurs. This nutrient bank supports spring growth which occurs

Table 21. Monthly average soluble chemical oxygen demand (SCOD) performance of each pond in the Corinne Waste Stabilization Lagoon System.

SOLUABLE COD (MG/L) FROM EPA LAB MONTHLY AVERAGES

| MONTH | INFLUENT | POND 1 | POND 2 | POND 3 | POND 4 | POND 5 | POND 6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| JAN-75 | 63.11 | 42.00 | 43.22 | 43.66 | 30.22 | 35.67 | 30.00 | 47.09 |
| FEB | 58.25 | 45.58 | 51.56 | 52.03 | 53.79 | 57.06 | 58.08 | 50.56 |
| MAR. | 62.10 | 30.60 | 42.90 | 42.00 | 40.20 | 32.00 | 38.80 | 44.30 |
| APR. | 63.06 | 35.29 | 33.16 | 32.71 | 33.71 | 38.62 | 36.01 | 36.00 |
| MAY | 39.79 | 38.26 | 36.89 | 39.11 | 38.58 | 37.67 | 36.60 | 36.26 |
| JUNE | 37.00 | 45.20 | 45.20 | 55.20 | 54.70 | 53.70 | 51.70 | 48.50 |
| JULY | 35.00 | 44.81 | 46.01 | 52.57 | 51.86 | 56.05 | 57.71 | 57.00 |
| AUG. | 36.26 | 39.21 | 44.09 | 47.37 | 49.53 | 50.47 | 49.76 | 51.05 |
| SEP. | 48.20 | 34.38 | 40.40 | 44.20 | 49.05 | 46.10 | 46.03 | 42.00 |
| OCT. | 49.67 | 30.09 | 39.33 | 48.56 | 52.56 | 50.49 | 50.39 | 48.56 |
| NOV. | 55.66 | 41.91 | 40.73 | 42.06 | 48.82 | 47.41 | 47.73 | 46.06 |
| DEC. | 63.78 | 46.66 | 44.33 | 45.11 | 45.78 | 46.67 | 52.13 | 48.66 |
| JAN-76 | 70.60 | 40.80 | 42.20 | 41.90 | 41.33 | 41.80 | 43.33 | 44.60 |

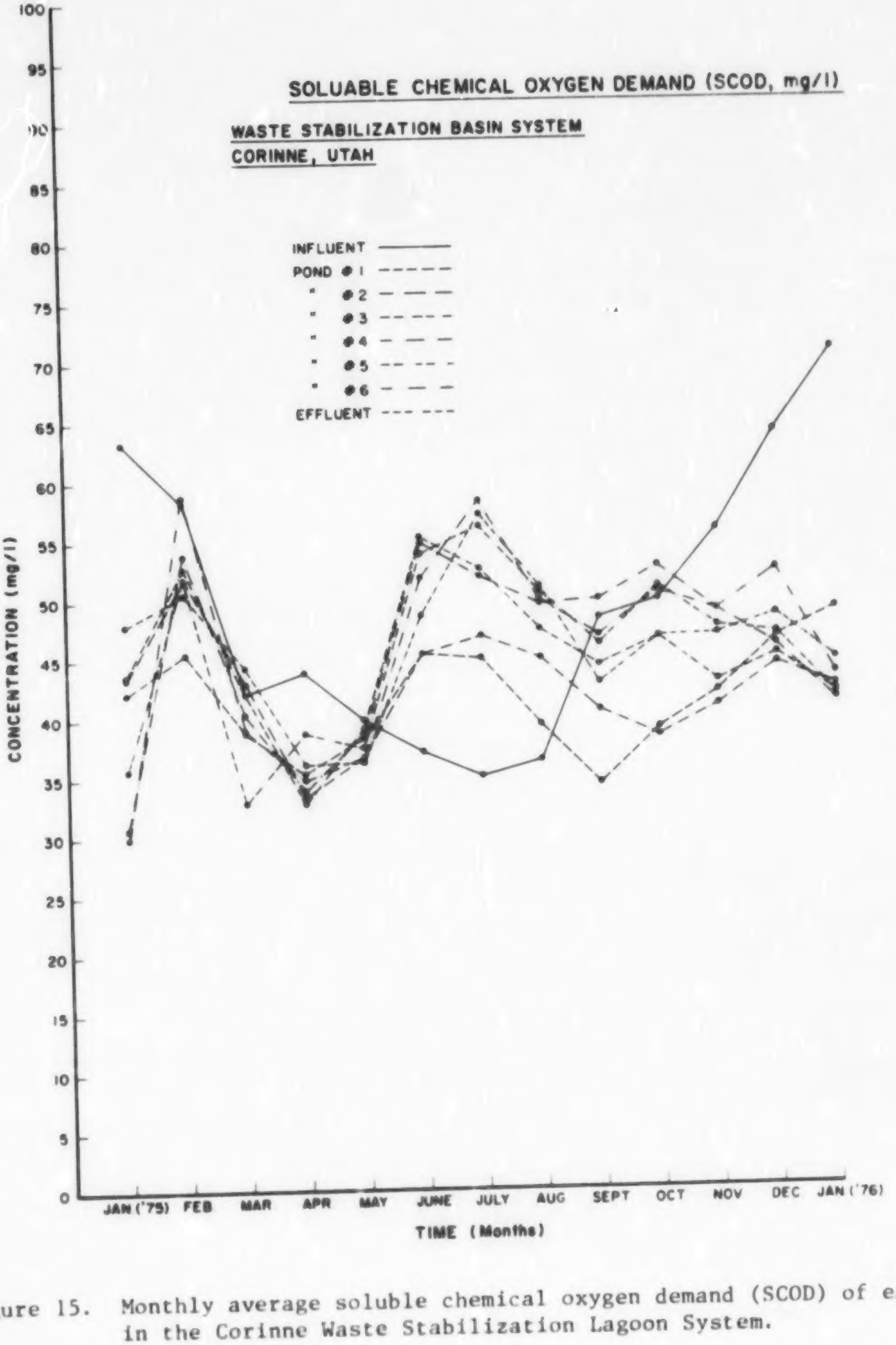

Figure 15. Monthly average soluble chemical oxygen demand (SCOD) of each pond in the Corinne Waste Stabilization Lagoon System.

at the first increase in light and temperature levels (i.e. March). Warmer temperatures, reduced density differentials and wind energy all assist in causing hydraulic mixing (overturn) which provides nutrient material to the microorganisms throughout the aquatic zone. The strong uptake of soluble nutrients coupled with increased growth of the microorganisms causes a reduction in the available nutrients in solution. This reduction is shown in Figures 15, 16, 17, 18, and 19 which show the variation of SCOD, alkalinity, total phosphorus, ammonia nitrogen, and total Kjeldahl nitrogen with time.

The results of the statistical analysis to determine the effectiveness of each pond in removing soluble chemical oxygen demand (SCOD) is reported in Table 22.

The statistical evaluation of the ponds effectiveness in reducing SCOD indicates the strong relationship between Pond Numbers 3 through 7. This coupled with the low yearly mean of Pond Number 2 suggests the most effective treatment is provided by the first two ponds, and that the remaining five ponds did not provide additional SCOD removal. Currently, there is no federal or state discharge requirement for soluble chemical oxygen demand (SCOD).

### Temperature, pH, and Dissolved Oxygen (DO)

#### General--

Temperature, pH, and the Dissolved Oxygen (DO) concentration in the effluent of each pond were either measured in situ or on an effluent grab sample (see Section 5: Procedures). Previous reports (Reynolds, 1971; Williford and Middlebrooks, 1967; and McKinney, 1970) clearly indicate that these three parameters are subject to a significant diurnal variation. Therefore, the measurement of these parameters in this study are subject to error. However, it is felt that analysis and discussion of the data is superior to a total disregard of the information.

#### Temperature--

The average monthly effluent temperature for each pond in the system is reported in Table 23, and a complete listing of the data appears in Appendix B, Table B-7. Surface water temperatures are directly related to the amount of radiant energy incident on the water surface and to the temperature of the surrounding air. Therefore, the highest temperatures in the liquid were measured during the summer months and the lowest during the winter periods. Temperatures at the surface ranged from 0.77°C at Pond Number 2 during February 1975 to 23.37°C for Pond Number 5 in July 1975. Statistical differences in temperatures were not found and the mean temperatures varied between 9.56°C and 9.37°C. The influent waters were slightly warmer with a mean temperature of 11.29°C.

The results of a statistical comparison of the effluent mean yearly temperature from each pond of the system is reported in Table 24. Statistically the effluent temperatures of each pond were similar. However the effluent temperatures from each pond were significantly different from the raw sewage influent. Thus, the pond temperature does not change significantly through the lagoon system.

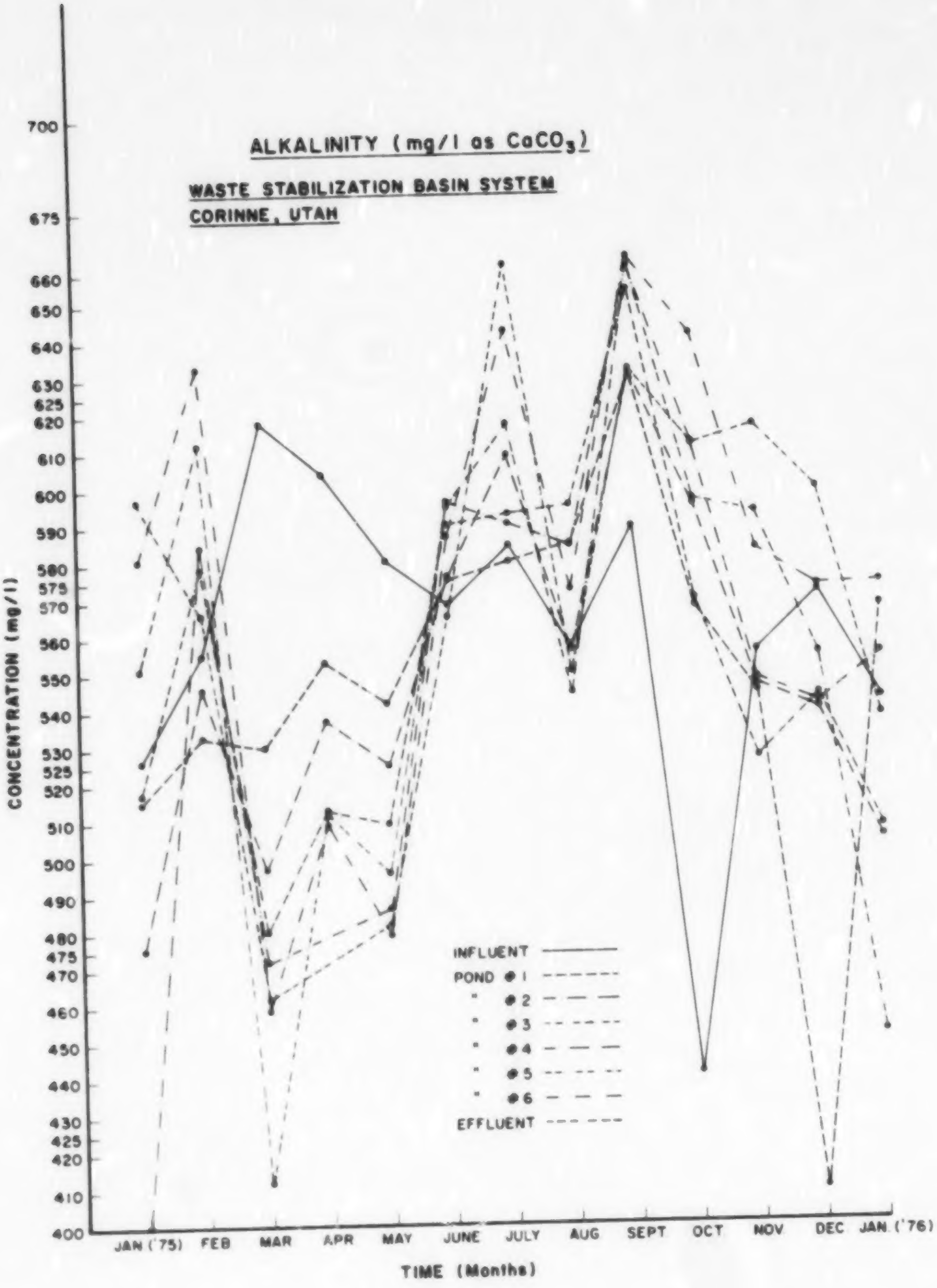

Figure 16. Monthly average alkalinity (as $CaCO_3$) concentration of the raw sewage influent and the effluent from each pond in the Corinne Waste Stabilization Lagoon System.

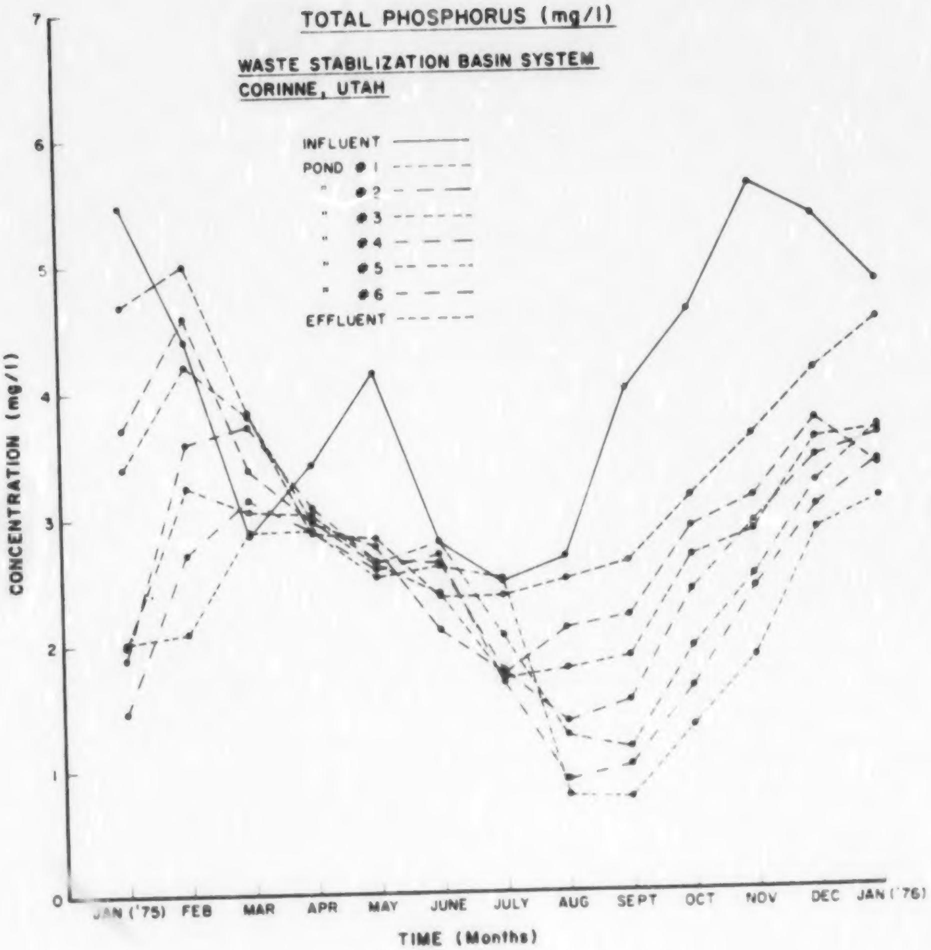

Figure 17. Monthly average total phosphorus performance of each pond in the Corinne Waste Stabilization Lagoon System.

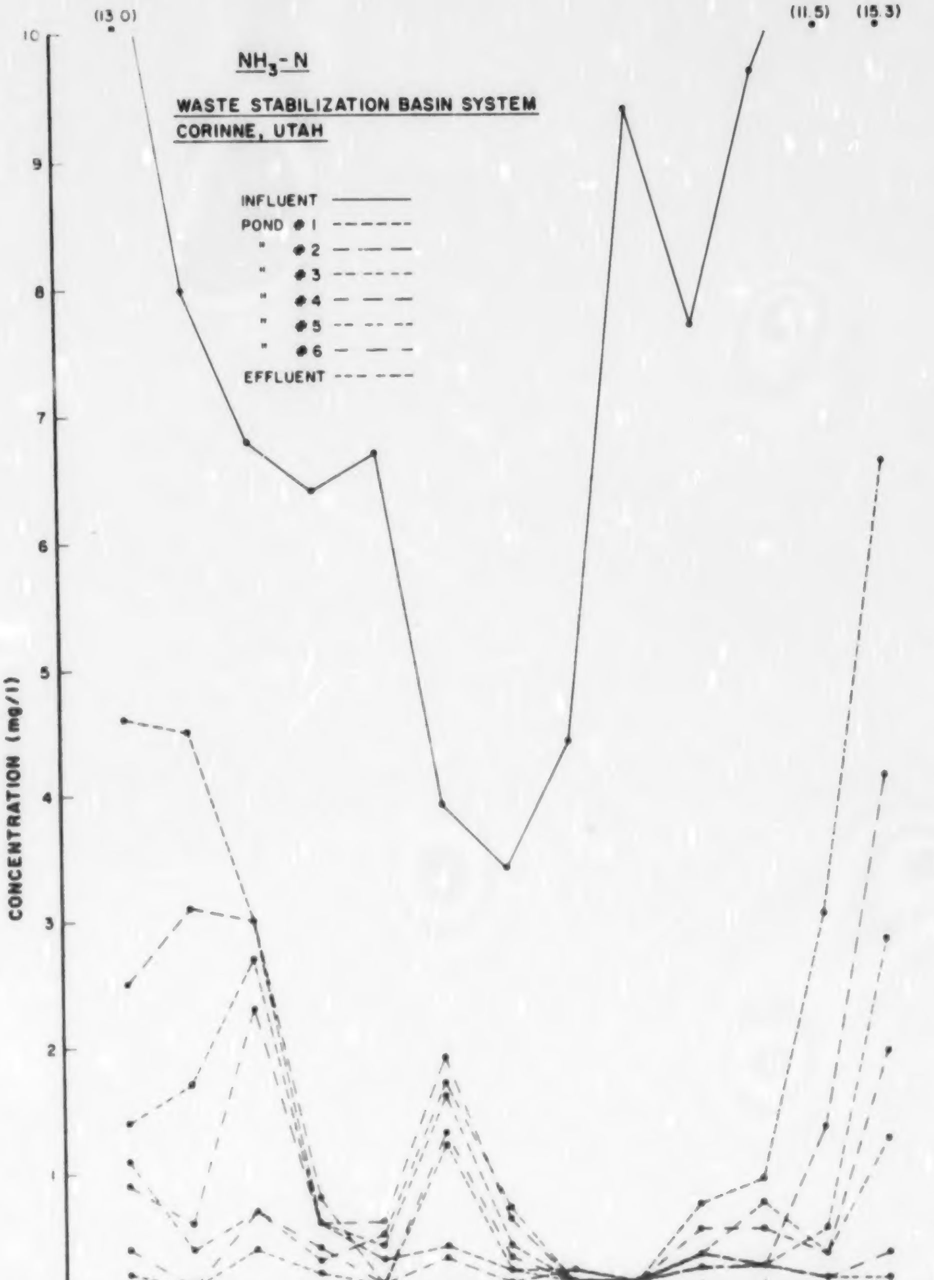

Figure 18. Monthly average ammonia-nitrogen (NH$_3$-N) performance of each pond in the Corinne Waste Stabilization Lagoon System.

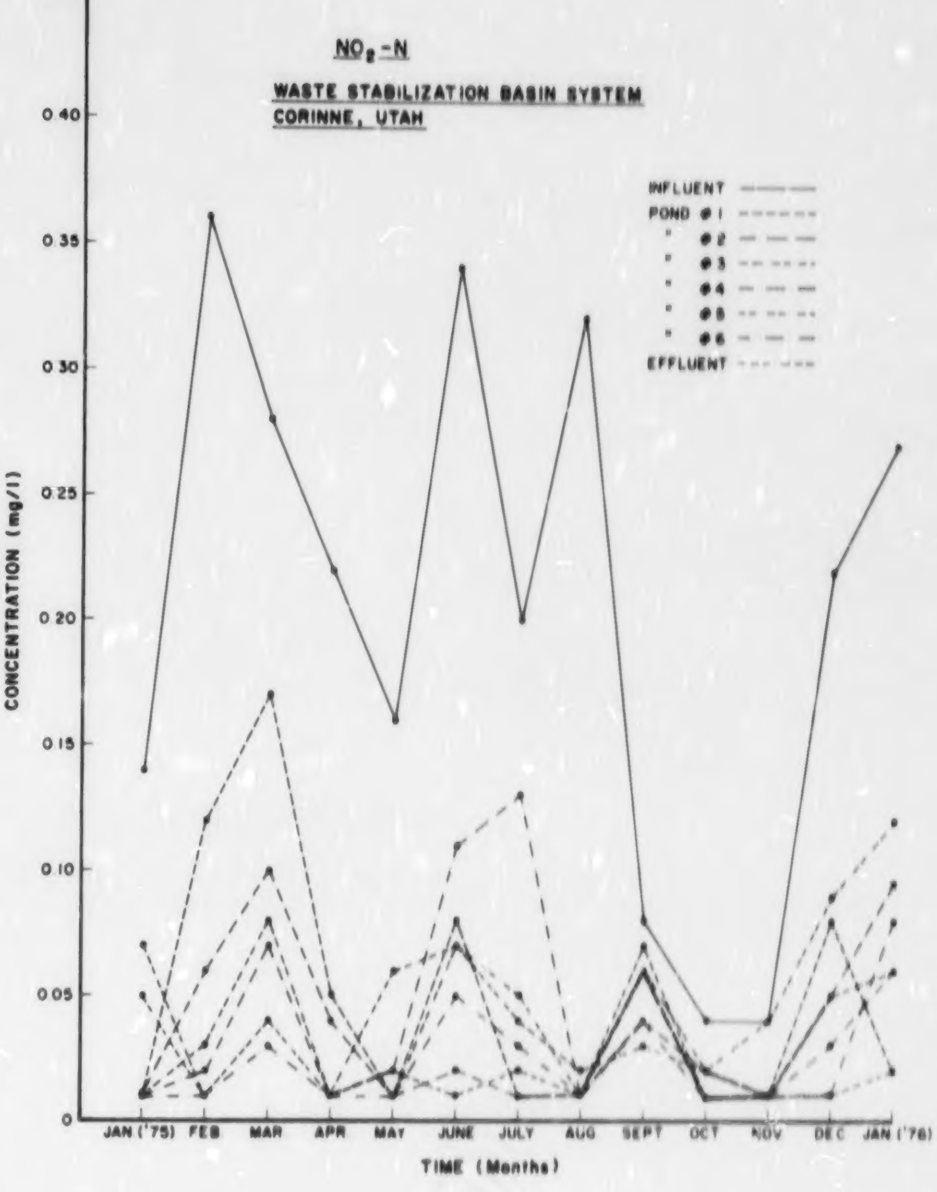

Figure 19. Monthly average nitrite-nitrogen ($NO_2$-N) performance of each pond in the Corinne Waste Stabilization Lagoon System.

Table 22. Statistical comparison of the average yearly effluent soluble chemical oxygen demand (SCOD) performance of each pond in the Corinne Waste Stabilization Lagoon System.

| Soluble COD (mg/l) | From EPA Lab Statistical Data | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| Mean | 48.2079 | 41.2624 | 42.3317 | 45.1139 | 46.1683 | 46.8911 | 47.0297 | 46.3416 |
| Standard Deviation | 24.1250 | 10.9001 | 10.2099 | 11.8499 | 13.5522 | 15.3207 | 14.2200 | 12.8666 |
| Coeff. of Var. | 0.5004 | 0.2642 | 0.2412 | 0.2627 | 0.2935 | 0.3267 | 0.3024 | 0.2776 |

LSR(2) = 2.0000
LSR(3) = 3.0000
LSR(4) = 3.0000
LSR(5) = 4.0000
LSR(6) = 4.0000
LSR(7) = 4.0000
LSR(8) = 4.0000

[a] Means not underlined by a common line are significantly different.

Table 23. Monthly average temperature of the influent and effluent for each pond in the Corinne Waste Stabilization Lagoon System.

```
TEMPERATURE  (DEGREES CENTIGRADE)          MONTHLY AVERAGES

     MONTH            INFLUENT     POND 1     POND 2     POND 3     POND 4     POND 5     POND 6     EFFLUENT

     JAN-75             9.57        1.90       1.17       1.31       1.66       1.80       1.93       2.12
     FEB                8.25        1.20       0.77       0.78       0.92       0.84       1.15       1.61
     MAR.               8.55        5.32       4.71       6.31       6.26       6.23       5.87       6.57
     APR.               9.56        8.56       7.96       8.01       7.99       8.16       7.81       7.91
     MAY               10.75       11.69      11.07      11.07      11.69      11.87      11.78      11.64
     JUNE              11.89       17.75      17.03      16.41      16.17      16.32      17.81      17.90
     JULY              15.20       22.20      22.84      22.99      23.23      23.37      22.97      23.03
     AUG.              15.78       19.29      19.73      19.75      20.26      19.68      19.32      19.67
     SEP.              16.28       15.98      16.17      15.95      16.26      15.76      15.37      16.92
     OCT.              12.85        8.48       9.59       9.29       9.53       8.11       9.29       9.16
     NOV.              10.43        3.25       2.93       2.81       3.09       2.90       3.37       3.30
     DEC.               9.00        2.82       2.26       2.27       1.86       1.37       1.77       1.67
     JAN-76             6.37        1.61       1.11       1.13       1.05       1.06       1.22       1.31
```

Table 24. Statistical comparison of the yearly average temperature of the raw sewage influent and the effluent from each pond in the Corinne Waste Stabilization Lagoon System.

| Temperature (Degrees Centigrade) | Statistical Data | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| Mean | 11.2896 | 9.5554 | 9.4624 | 9.3683 | 9.4381 | 9.3723 | 9.4252 | 9.4827 |
| Standard Deviation | 3.7492 | 7.5728 | 7.9048 | 7.9839 | 8.0718 | 8.0439 | 7.7756 | 7.7128 |
| Coeff. of Var. | 0.3321 | 0.7925 | 0.8354 | 0.8522 | 0.8552 | 0.8583 | 0.8250 | 0.8134 |

LSR(2) = 1.0000
LSR(3) = 1.0000
LSR(4) = 1.0000
LSR(5) = 2.0000
LSR(6) = 2.0000
LSR(7) = 2.0000
LSR(8) = 2.0000

[a] Means not underlined by a common line are significantly different.

pH--

The average monthly pH value for the raw sewage influent and the effluent from each pond in the system is reported in Table 25, and a complete listing of the data is in Appendix B, Table B-8. The pH values were nearly the same for all of the ponds. The pH varied from 7.70 to 9.33 and the influent pH yearly value averaged 8.41. On a yearly basis there was a general rise in the pH value as the wastewater passed through the Corinne system, beginning at 8.41 for the influent and exiting at 9.36. Algal metabolism coupled with the alkalinity of the water were primarily responsible for the variations in the pH values in the system. The algae continually remove carbon dioxide ($CO_2$) from the aqueous environment causing a shift in the carbonate equilibrium and an increase in the pH value.

The results of the statistical analysis comparing the average monthly pH value of the raw sewage influent and the effluent from each lagoon in the system is reported in Table 26. The statistical analysis indicated a significant difference (95 percent level) in the values for each pond in the system.

The system failed to satisfy the federal and state effluent pH standard (range 6.5 to 9.0) 10 out of the 13 months studied. Final monthly average effluent pH values ranged from 8.99 to 10.13. Since these samples were taken early in the morning (6:00 a.m. to 10:00 a.m.) it is highly possible that the final effluent pH values were actually greater later in the day, than those reported in this study.

Dissolved Oxygen (DO)--

The average monthly raw sewage dissolved oxygen concentration (DO) for each pond in the system is reported in Table 27 and a complete listing of the data is presented in Appendix B, Table B-9.

Table 25. Monthly average pH value for the raw sewage influent and the effluent from each pond in the Corinne Waste Stabilization Lagoon System.

| pH | Monthly Averages | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| JAN-75 | 8.54 | 8.27 | 9.43 | 9.34 | 9.47 | 9.29 | 9.19 | 8.99 |
| FEB | 8.03 | 8.50 | 9.19 | 9.17 | 9.23 | 9.21 | 9.12 | 9.10 |
| MAR | 8.31 | 7.75 | 8.99 | 9.09 | 8.17 | 8.40 | 9.21 | 9.15 |
| APR | 8.73 | 9.19 | 9.37 | 9.52 | 9.51 | 9.57 | 9.50 | 9.40 |
| MAY | 8.52 | 9.46 | 9.66 | 9.71 | 9.75 | 9.70 | 9.62 | 9.46 |
| JUNE | 8.40 | 9.48 | 9.65 | 9.45 | 9.38 | 9.29 | 9.24 | 9.25 |
| JULY | 8.26 | 9.40 | 9.06 | 9.42 | 9.32 | 9.39 | 9.55 | 9.42 |
| AUG | 8.50 | 9.48 | 9.70 | 9.56 | 9.56 | 9.69 | 9.87 | 9.86 |
| SEP | 8.44 | 9.42 | 9.54 | 9.57 | 9.58 | 9.77 | 10.00 | 10.13 |
| OCT | 8.98 | 9.44 | 9.55 | 9.56 | 9.51 | 9.63 | 9.76 | 10.02 |
| NOV | 8.45 | 9.60 | 9.72 | 9.76 | 9.67 | 9.56 | 9.55 | 9.66 |
| DEC | 8.50 | 9.41 | 9.62 | 9.71 | 9.65 | 9.66 | 9.52 | 9.42 |
| JAN-76 | 8.41 | 8.96 | 9.21 | 9.32 | 9.41 | 9.40 | 9.39 | 9.33 |

Table 26. Statistical comparison of the average yearly pH value of the raw sewage influent and the effluent from each pond in the Corinne Waste Stabilization Lagoon System.

| pH | Statistical Data | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| Mean | 7.9836 | 8.8340 | 9.0907 | 9.1579 | 9.1045 | 9.2190 | 9.2751 | 9.2959 |
| Standard Deviation | 1.9513 | 2.0526 | 1.8734 | 1.7597 | 1.8720 | 1.6364 | 1.5119 | 1.3704 |
| Coeff. of Var. | 0.2444 | 0.2324 | 0.2061 | 0.1922 | 0.2056 | 0.1775 | 0.1630 | 0.1474 |

LSR(2) = 0.0000
LSR(3) = 0.0000
LSR(4) = 0.0000
LSR(5) = 0.0000
LSR(6) = 0.0000
LSR(7) = 0.0000
LSR(8) = 0.0000

Table 27. Monthly average dissolved oxygen concentration of the raw sewage influent and the effluent for each pond in the Corinne Waste Stabilization Lagoon System.

```
DISSOLVED OXYGEN  (MG/L)                  MONTHLY AVERAGES

         MONTH         INFLUENT     POND 1     POND 2     POND 3     POND 4     POND 5     POND 6    EFFLUENT

         JAN-75            3.99       2.82       2.82       5.56       5.56       0.76       0.86       1.42
         FEB               4.39       5.82       5.06       7.43       9.47       3.17       3.74       3.98
         MAR.              4.48       8.81       9.28      10.51      10.86      12.45      11.32      11.17
         APR.              3.95      16.70      16.42      14.83      12.40      12.88      12.86      10.30
         MAY               8.45      16.59      16.46      10.77       8.79       8.60       8.29       7.57
         JUNE              3.35      14.15      12.64       0.98       0.90       2.35       2.75       3.15
         JULY              2.37       8.01       5.15       2.22       2.79       5.84       6.28       9.52
         AUG.              2.20       8.72       6.58       4.12       4.96       8.88       8.17       8.57
         SEP.              1.91       4.41       4.01       1.98       3.32       5.99       7.55       5.56
         OCT.              2.11      10.57       8.30       6.29       6.01       5.21       7.45       7.65
         NOV.              1.89      14.06      13.85      11.74       9.46       6.65       7.77      10.06
         DEC.              2.63      13.44      14.59      18.62      17.76      16.01      13.86       9.50
         JAN-76            2.87       0.48       1.44       4.04       6.88       3.13       4.07       1.66
```

Dissolved oxygen levels generally decreased as the wastewater passed through the Corinne wastewater treatment system. From an influent concentration of 3.02 mg/l, DO concentrations increased to 10.22 in Pond Number 1 and then declined to 7.38 mg/l in the final effluent. Monthly means as low as 0.48 mg/l and as high as 18.62 mg/l were recorded at various times of the year.

Samples were collected during the early hours of the morning, not long after sunrise; therefore, it is likely that higher DO levels were actually reached later in the day. This would also be true of the surface water temperatures discussed earlier. Such trends were reported by Williford and Middlebrooks (1967) in a study of two small lagoons which included diurnal variations.

The results of the statistical analysis comparing the yearly average of dissolved oxygen concentrations of the raw sewage influent and the effluent from each pond in the system is reported in Table 28. The results indicated no significant increase (95 percent level) in dissolved oxygen concentrations between Pond Number 3 to Number 7. However, because of the nature of sampling, this should not be interpreted as meaning that Pond Number 3 to Number 7 do not affect the dissolved oxygen concentration.

In general, temperature, pH, and DO levels fluctuated throughout the year as would be expected. Since diurnal and depth profiles were not performed for these three parameters no further discussion will be presented, and the reader is referred to the article by Williford and Middlebrooks (1967).

### Alkalinity (as $CaCO_3$)--

The mean monthly alkalinity (as $CaCO_3$) of the raw sewage influent and the effluent from each pond in the system is reported in Table 29 and illustrated in Figure 16. A complete listing of the data is contained in Appendix B, Table B-10.

Alkalinity is an indication of the buffering capacity of a given water. Alkalinity is expressed in various forms, but usually as calcium carbonate ($CaCO_3$). The mean concentration of alkalinity in the Corinne system ranged on a monthly average from 552.56 mg/l to 579.24 mg/l, Pond Number 1 being the lowest and Pond Number 6 being the highest. Water entered the system with a mean alkalinity of 560.02 mg/l. Calculations utilizing these figures reveal the reduction in alkalinity of Pond Number 1 to be 1.4 percent. The mean final effluent alkalinity of 569.27 mg/l (Pond Number 7) is 1.7 percent higher than the alkalinity in the raw sewage influent.

The influent alkalinity reached a high mean monthly concentration of 618.7 mg/l in March and a low mean monthly concentration of 439.89 mg/l in October. All of the ponds followed the same general pattern with a high point occurring

Table 28. Statistical comparison of the dissolved oxygen concentration of the raw sewage influent and the effluent from each pond in the Corinne Waste Stabilization Lagoon System.

| Dissolved Oxygen (mg/l) | Statistical Data | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| Mean | 3.0230 | 10.2174 | 9.3891 | 7.8405 | 7.6872 | 7.0857 | 7.5447 | 7.3766 |
| Standard Deviation | 1.3203 | 7.1237 | 6.6076 | 6.0622 | 5.2739 | 4.9639 | 4.1608 | 3.7261 |
| Coeff. of Var. | 0.4368 | 0.6972 | 0.7038 | 0.7732 | 0.6861 | 0.7005 | 0.5515 | 0.5051 |
| LSR(2) = 1.0000 | | | | | | | | |
| LSR(3) = 1.0000 | | | | | | | | |
| LSR(4) = 1.0000 | | | | | | | | |
| LSR(5) = 1.0000 | | | | | | | | |
| LSR(6) = 1.0000 | | | | | | | | |
| LSR(7) = 1.0000 | | | | | | | | |
| LSR(8) = 1.0000 | | | | | | | | |

[a] Means not underlined by a common line are significantly different.

Table 29. Monthly average alkalinity (as $CaCO_3$) concentration of the raw sewage influent and the effluent from each pond in the Corinne Waste Stabilization Lagoon System.

ALKALINITY (MG/L as $CaCO_3$) MONTHLY AVERAGES

| MONTH | INFLUENT | POND 1 | POND 2 | POND 3 | POND 4 | POND 5 | POND 6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| JAN-75 | 526.56 | 545.66 | 475.56 | 517.22 | 600.56 | 551.33 | 581.56 | 597.67 |
| FEB | 555.83 | 513.66 | 546.08 | 570.21 | 581.58 | 612.83 | 633.62 | 566.00 |
| MAR. | 618.70 | 510.10 | 497.10 | 480.50 | 672.63 | 612.70 | 659.70 | 461.60 |
| APR. | 604.05 | 553.52 | 537.81 | 511.26 | 506.67 | 512.63 | 509.67 | 505.33 |
| MAY | 500.63 | 542.68 | 525.53 | 509.76 | 656.86 | 696.12 | 479.68 | 481.95 |
| JUNE | 560.20 | 575.70 | 576.20 | 590.60 | 596.50 | 595.10 | 587.10 | 565.20 |
| JULY | 586.26 | 590.19 | 609.52 | 593.57 | 590.67 | 617.67 | 663.56 | 660.14 |
| AUG. | 557.58 | 555.65 | 556.53 | 595.67 | 584.79 | 566.02 | 572.89 | 550.89 |
| SEP. | 589.50 | 610.70 | 631.50 | 651.50 | 660.60 | 660.60 | 662.80 | 632.50 |
| OCT. | 639.09 | 567.66 | 595.96 | 569.11 | 611.67 | 596.17 | 661.00 | 611.11 |
| NOV. | 555.27 | 564.77 | 546.16 | 526.86 | 567.32 | 593.23 | 583.09 | 616.64 |
| DEC. | 571.66 | 639.67 | 536.33 | 563.67 | 541.66 | 556.89 | 572.89 | 599.66 |
| JAN-76 | 562.50 | 567.90 | 506.10 | 507.90 | 556.60 | 651.50 | 573.10 | 537.60 |

in February 1975 and low points occurring in March, April, and May 1975. High points reoccurred in July and September, 1975, and a low point reoccurred in August 1975. Following the high point in September 1975, a general decline was observed for the remainder of the year. The first high point in February 1975 followed by the low point of March, April, and May 1975 corresponds to the increase in nutrient concentrations prior to the onset of increased biological growth in the spring. Synthesis of carbons could account for the decline in alkalinity observed in March 1975. Although the lines showing the variation in alkalinity with time shows two peaks in the summer and fall, Pond Numbers 1, 2, 3, and 4 do not reach the high alkalinity concentrations found for Pond Numbers 5, 6, and 7. These latter two peaks occur simultaneous with increases in SS concentrations again indicating increased biological activity.

Statistically the ponds and the influent do not differ (see Table 30).

Total Phosphorus--

Mean monthly total phosphorus concentrations for the sample year are recorded in Table 31 and Figure 17 provides the variation of the total phosphorus concentrations with time in the Corinne system. A complete listing of the total phosphorus data is shown in Appendix B, Table B-11. The influent total phosphorus concentrations were influenced by dilution as were the $BOD_5$ concentrations which were discussed above. However, dilution of total phosphorus concentration was not as great as that observed for $BOD_5$, COD, $NH_3$-N. The concentrations of total phosphorus in the infiltrated waters were approximately equivalent to the concentrations in the raw sewage influent.

Similar to the alkalinity, most of the pond effluents showed early peaks in total phosphorus concentrations prior to the spring overturn. The highest concentration occurred in Pond Number 1 and was 5.00 mg/l. All of the other pond effluents reached concentrations of at least 2.00 mg/l. Warmer weather, ice break, spring overturn and increased light levels fostered higher levels of biological activity. Assimilation of phosphorus by micro and macroorganisms

Table 30. Statistical comparison of the alkalinity (as $CaCO_3$) concentration in the raw sewage influent and the effluent from each pond in the Corinne Waste Stabilization Lagoon System.

| Alkalinity (mg/l) | Statistical Data | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| Mean | 560.0248 | 552.5644 | 552.8663 | 553.5990 | 553.1287 | 559.9376 | 579.2426 | 569.2673 |
| Standard Deviation | 97.2875 | 97.2829 | 91.5938 | 105.3176 | 104.3860 | 121.3604 | 101.6226 | 119.7335 |
| Coeff. of Var. | 0.1737 | 0.1761 | 0.1657 | 0.1902 | 0.1887 | 0.2167 | 0.1754 | 0.2103 |

LSR(2) = 20.0000
LSR(3) = 24.0000
LSR(4) = 27.0000
LSR(5) = 28.0000
LSR(6) = 30.0000
LSR(7) = 31.0000
LSR(8) = 32.0000

[a] Means not underlined by a common line are significantly different.

Table 31. Monthly average total phosphorus performance of each pond in the Corinne Waste Stabilization Lagoon System.

TOTAL PHOSPHORUS (MG/L) FROM EPA LAB MONTHLY AVERAGES

| MONTH | INFLUENT | POND 1 | POND 2 | POND 3 | POND 4 | POND 5 | POND 6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| JAN-75 | 5.46 | 4.69 | 3.72 | 3.39 | 1.87 | 1.98 | 1.46 | 2.01 |
| FEB | 4.40 | 5.00 | 4.59 | 4.21 | 3.59 | 3.24 | 2.71 | 2.09 |
| MAR. | 2.86 | 3.84 | 3.38 | 3.81 | 3.73 | 3.05 | 3.15 | 2.89 |
| APR. | 3.42 | 2.87 | 2.95 | 2.97 | 3.08 | 3.02 | 2.88 | 2.90 |
| MAY | 4.14 | 2.83 | 2.77 | 2.62 | 2.65 | 2.63 | 2.57 | 2.52 |
| JUNE | 2.78 | 2.36 | 2.08 | 2.38 | 2.63 | 2.78 | 2.69 | 2.61 |
| JULY | 2.47 | 2.36 | 1.74 | 1.70 | 1.77 | 2.04 | 1.67 | 1.98 |
| AUG. | 2.66 | 2.65 | 2.09 | 1.77 | 1.36 | 1.24 | 0.83 | 0.76 |
| SEP. | 3.97 | 2.62 | 2.18 | 1.86 | 1.52 | 1.14 | 1.00 | 0.74 |
| OCT. | 4.60 | 3.13 | 2.89 | 2.65 | 2.39 | 1.92 | 1.61 | 1.30 |
| NOV. | 5.59 | 3.61 | 3.13 | 2.85 | 2.91 | 2.49 | 2.37 | 1.84 |
| DEC. | 5.36 | 4.11 | 3.72 | 3.57 | 3.43 | 3.22 | 3.03 | 2.84 |
| JAN-76 | 4.82 | 4.52 | 3.35 | 3.64 | 3.60 | 3.66 | 3.39 | 3.09 |

caused a continual reduction in the total phosphorus concentrations. During the fall overturn period the total phosphorus concentrations reach their lowest level at 0.74 mg/l for Pond Number 7.

Heavy macrophyte growth was found in all of the ponds, except Pond Number 1, during the late summer and fall periods. The vegetation occupied all regions of the lagoon water, providing support for a heavy surface algal mat, and serving as a possible phosphorus sink. Cold nights, especially those in the fall, would cause the mat to sink down into the pond. The macrophyte material would then be subject to decomposition, becoming a phosphorus source.

The results of the statistical analysis to compare the removal of total phosphorus for each pond in the system is reported in Table 32. The results indicate a significant (95 percent level) in reduction of total concentration

Table 32. Statistical comparison of the average yearly effluent total phosphorus performance of each pond in the Corinne Waste Stabilization Lagoon System.

| Total Phosphorus (mg/l) | From EPA Lab Statistical Data | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| Mean | 3.9886 | 3.3777 | 2.9629 | 2.8337 | 2.6406 | 2.4757 | 2.2277 | 2.0569 |
| Standard Deviation | 1.9473 | 1.1456 | 1.0829 | 1.0056 | 1.0178 | 0.9370 | 0.9299 | 0.8957 |
| Coeff. of Var. | 0.4882 | 0.3392 | 0.3655 | 0.3549 | 0.3854 | 0.3785 | 0.4174 | 0.4355 |
| LSR(2) = 0.0000<br>LSR(3) = 0.0000<br>LSR(4) = 0.0000<br>LSR(5) = 0.0000<br>LSR(6) = 0.0000<br>LSR(7) = 0.0000<br>LSR(8) = 0.0000 | | | | | | | | |

as the wastewater passes through the system. The influent raw sewage yearly average total phosphorus concentration was 3.99 mg/l while the final effluent total phosphorus concentration was 2.06 mg/l.

Ammonia-Nitrogen ($NH_3$-N)--

The average monthly and yearly ammonia-nitrogen ($NH_3$-N) performance of the system is reported in Table 33 and Table 34, respectively. The average monthly ammonia-nitrogen ($NH_3$-N) performance is illustrated in Figure 18. A complete listing of the data appears in Appendix B, Table B-12.

Table 33. Monthly average ammonia-nitrogen ($NH_3$-N) performance of each pond in the Corinne Waste Stabilization Lagoon System.

| $NH_3$-N (mg/l) Run | From EPA Lab Monthly Averages | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| JAN(75) | 13.0 | 4.6 | 2.5 | 1.4 | 0.9 | 1.1 | 0.4 | 0.2 |
| FEB | 8.0 | 4.5 | 3.1 | 1.7 | 0.6 | 0.4 | 0.1 | 0.1 |
| MAR | 6.8 | 3.0 | 3.0 | 2.7 | 2.3 | 0.7 | 0.7 | 0.4 |
| APR | 6.4 | 0.6 | 0.8 | 0.6 | 0.6 | 0.3 | 0.4 | 0.2 |
| MAY | 6.7 | 0.3 | 0.1 | 0.4 | 0.6 | 0.5 | 0.1 | 0.1 |
| JUN | 3.9 | 0.4 | 0.3 | 1.6 | 1.9 | 1.7 | 1.3 | 1.2 |
| JUL | 3.4 | 0.2 | 0.1 | 0.4 | 0.6 | 0.7 | 0.3 | 0.2 |
| AUG | 4.4 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| SEP | 9.9 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| OCT | 7.7 | 0.7 | 0.2 | 0.3 | 0.5 | 0.3 | 0.2 | 0.3 |
| NOV | 9.7 | 0.9 | 0.2 | 0.2 | 0.5 | 0.7 | 0.2 | 0.2 |
| DEC | 11.5 | 3.0 | 1.3 | 0.5 | 0.3 | 0.3 | 0.1 | 0.1 |
| JAN(76) | 15.3 | 6.6 | 4.1 | 2.8 | 1.9 | 1.2 | 0.3 | 0.1 |

Table 34. Yearly average ammonia-nitrogen ($NH_3$-N) performance of each pond in the Corinne Waste Stabilization Lagoon System.

| $NH_3$-N (mg/l) | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
|---|---|---|---|---|---|---|---|---|
| Mean | 8.18 | 1.93 | 1.23 | 0.98 | 0.84 | 0.62 | 0.33 | 0.25 |

During the entire year $NH_3$-N concentrations remained very low for the whole Corinne system, ranging from 1.93 mg/l in the Pond Number 1 effluent to 0.25 mg/l in the Pond Number 7 effluent. The yearly mean influent concentration was 8.18 mg/l. The influent $NH_3$-N variation shown in Figure 18 was influenced by dilution during the irrigation season. The mass of incoming $NH_3$-N remained relatively constant and varied with the degree of dilution of the raw wastewater.

Except for the winter period, November to March, 1975, the levels of $NH_3$-N were very low throughout the system with the exception of a small peak in the month of June 1975. This pattern shows the influence on $NH_3$-N by the microorganisms of the system during the season of high biological activity which occurred, March through October, 1975. Overturns in April and September, 1975, apparently had little influence on the $NH_3$-N concentrations.

The June 1975 peak, reached 1.9 mg/l in the effluent of Pond Number 4 and is possibly due to the increased biological activity at the lower depths of the lagoon. With the spring temperature increase reaching the lower depths, decomposition activities would increase and cause a general rise in $NH_3$-N levels prior to stratification. Upon stratification $NH_3$-N in the lower levels of the lagoons would be trapped by the density differential and be restricted to the hypolimnion until fall overturn. Destratification accompanying fall overturn would release trapped $NH_3$-N to mix with the entire pond water mass and generate a rise in $NH_3$-N levels. However, all $NH_3$-N released into the system would be assimilated by microorganisms in the lagoon. Therefore, no increase in $NH_3$-N concentration would occur. Winter conditions would result in a reduction in activity which would then be followed by a rise in the $NH_3$-N levels. A pattern of change similar to the one discussed here can be found in Figure 18 which represents the monthly averages for $NH_3$-N measured in the Corinne Lagoon System.

The $NH_3$-N concentrations are characterized by the influence of influent dilution and the lack of influence from the overturn periods. Most influential would appear to be the levels of biological activity in the system, with the biological activity being dependent on $NH_3$-N as a primary nutrient source.

### Nitrite Nitrogen ($NO_2$-N)--

Nitrite nitrogen ($NO_2$-N) is a form of inorganic nitrogen both generated and reduced by the action of various bacteria. Due to this action the presence of $NO_2$-N can be thought of not only as a nitrogen intermediate but also as an indicator of bacterial activity, or the lack of such activity.

Mean monthly concentrations of $NO_2$-N found in the Corinne system are presented in Table 35 and Figure 19. Mean yearly effluent concentrations for each pond in the system are shown in Table 36. The precision of the automatic analysis equipment utilized at the Environmental Protection Agency Laboratory was limited to 0.1 ppm (0.1 mg/l). Therefore, concentrations below 0.1 mg/l were recorded as 0.1 mg/l (less than 0.1 mg/l). All mean monthly concentrations and statistical calculations for the $NO_2$-N data were estimated using 0.01 mg/l for all values recorded as 0.1 mg/l. A complete listing of the data is found in Appendix B, Table B-13.

Yearly effluent mean concentrations of $NO_2$-N ranged from 0.05 mg/l to 0.02 mg/l for Pond Numbers 1 and 2, respectively, with a raw sewage influent concentration of 0.21 mg/l. The majority of the variations in the pond effluents $NO_2$-N concentrations occurred below the level of sensitivity of the analysis; therefore, little significance can be attached to the variations.

Influent $NO_2$-N concentrations varied widely and the variation was, at least in part, influenced by dilution during the irrigation system. The low levels of $NO_2$-N observed during the fall period along with the low effluent

Table 35. Monthly average nitrite-nitrogen ($NO_2$-N) performance of each pond in the Corinne Waste Stabilization Lagoon System.

| $NO_2$-N (mg/l) Run | From EPA Lab Monthly Averages | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| JAN(75) | 0.14 | 0.01 | 0.01 | 0.01 | 0.01 | 0.05 | 0.01 | 0.07 |
| FEB | 0.36 | 0.12 | 0.06 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 |
| MAR | 0.28 | 0.17 | 0.10 | 0.13 | 0.07 | 0.04 | 0.03 | 0.04 |
| APR | 0.22 | 0.05 | 0.04 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| MAY | 0.16 | 0.01 | 0.01 | 0.06 | 0.02 | 0.01 | 0.01 | 0.02 |
| JUN | 0.34 | 0.08 | 0.02 | 0.07 | 0.11 | 0.07 | 0.05 | 0.01 |
| JUL | 0.20 | 0.01 | 0.01 | 0.04 | 0.13 | 0.05 | 0.03 | 0.02 |
| AUG | 0.32 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 |
| SEP | 0.08 | 0.06 | 0.04 | 0.03 | 0.06 | 0.06 | 0.04 | 0.07 |
| OCT | 0.04 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 |
| NOV | 0.04 | 0.01 | 0.01 | 0.01 | 0.01 | 0.04 | 0.01 | 0.01 |
| DEC | 0.22 | 0.08 | 0.05 | 0.05 | 0.03 | 0.09 | 0.01 | 0.01 |
| JAN(76) | 0.27 | 0.02 | 0.12 | 0.06 | 0.06 | 0.12 | 0.08 | 0.02 |

Table 36. Yearly average nitrite ($NO_2$-N) performance of each pond in the Corinne Waste Stabilization Lagoon System.

| $NO_2$-N (mg/l) | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
|---|---|---|---|---|---|---|---|---|
| Mean | 0.21 | 0.05 | 0.04 | 0.04 | 0.04 | 0.04 | 0.02 | 0.02 |

concentrations of $NO_3$-N and high $NH_3$-N effluent concentrations for the same period indicate that all of the free inorganic nitrogen is in the ammonia-nitrogen form.

Further studies using analytical techniques of higher sensitivity are needed in order to determine the variation of $NO_2$-N concentrations in the Corinne system.

Nitrate Nitrogen ($NO_3$-N)--

The mean monthly $NO_3$-N concentrations for the effluent from each pond in the system are presented in Table 37 and the yearly average pond effluent $NO_3$-N concentrations are reported in Table 38 and Figure 20 shows the variation in $NO_3$-N concentration with time for all ponds. A complete listing of the nitrate-nitrogen data is found in Appendix B, Table B-14. As was mentioned in the discussion on nitrite nitrogen, limited discussion of the $NO_3$-N data is possible due to the nature of the analytical technique employed.

There is evidence of an increase in $NO_3$-N concentration at only one point in the year; the spring overturn period. The peak concentration was 4.5 mg/l.

Table 37. Monthly average nitrate-nitrogen ($NO_3$-N) performance of each pond in the Corinne Waste Stabilization Lagoon System.

| $NO_3$-N (mg/l) Run | Monthly Averages | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| JAN(75) | 0.2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.08 |
| FEB | 1.49 | 0.08 | 0.06 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 |
| MAR | 2.80 | 0.60 | 0.34 | 0.20 | 0.12 | 0.12 | 0.06 | 0.05 |
| APR | 4.50 | 0.65 | 0.34 | 0.10 | 0.01 | 0.01 | 0.01 | 0.01 |
| MAY | 2.41 | 0.03 | 0.01 | 0.03 | 0.01 | 0.01 | 0.01 | 0.01 |
| JUN | 1.94 | 0.10 | 0.01 | 0.08 | 0.01 | 0.02 | 0.01 | 0.01 |
| JUL | 0.70 | 0.05 | 0.05 | 0.06 | 0.07 | 0.06 | 0.06 | 0.02 |
| AUG | 0.40 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.01 |
| SEP | 0.80 | 0.02 | 0.02 | 0.06 | 0.03 | 0.03 | 0.04 | 0.06 |
| OCT | 0.15 | 0.02 | 0.02 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 |
| NOV | 0.21 | 0.08 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| DEC | 0.41 | 0.01 | 0.01 | 0.05 | 0.01 | 0.01 | 0.01 | 0.01 |
| JAN(76) | 0.40 | 0.01 | 0.01 | 0.05 | 0.05 | 0.01 | 0.01 | 0.01 |

Table 38. Yearly average nitrate-nitrogen ($NO_3$-N) performance of each pond in the Corinne Waste Stabilization Lagoon System.

| $NO_3$-N (mg/l) | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
|---|---|---|---|---|---|---|---|---|
| Mean | 1.04 | 0.13 | 0.07 | 0.05 | 0.03 | 0.03 | 0.02 | 0.03 |

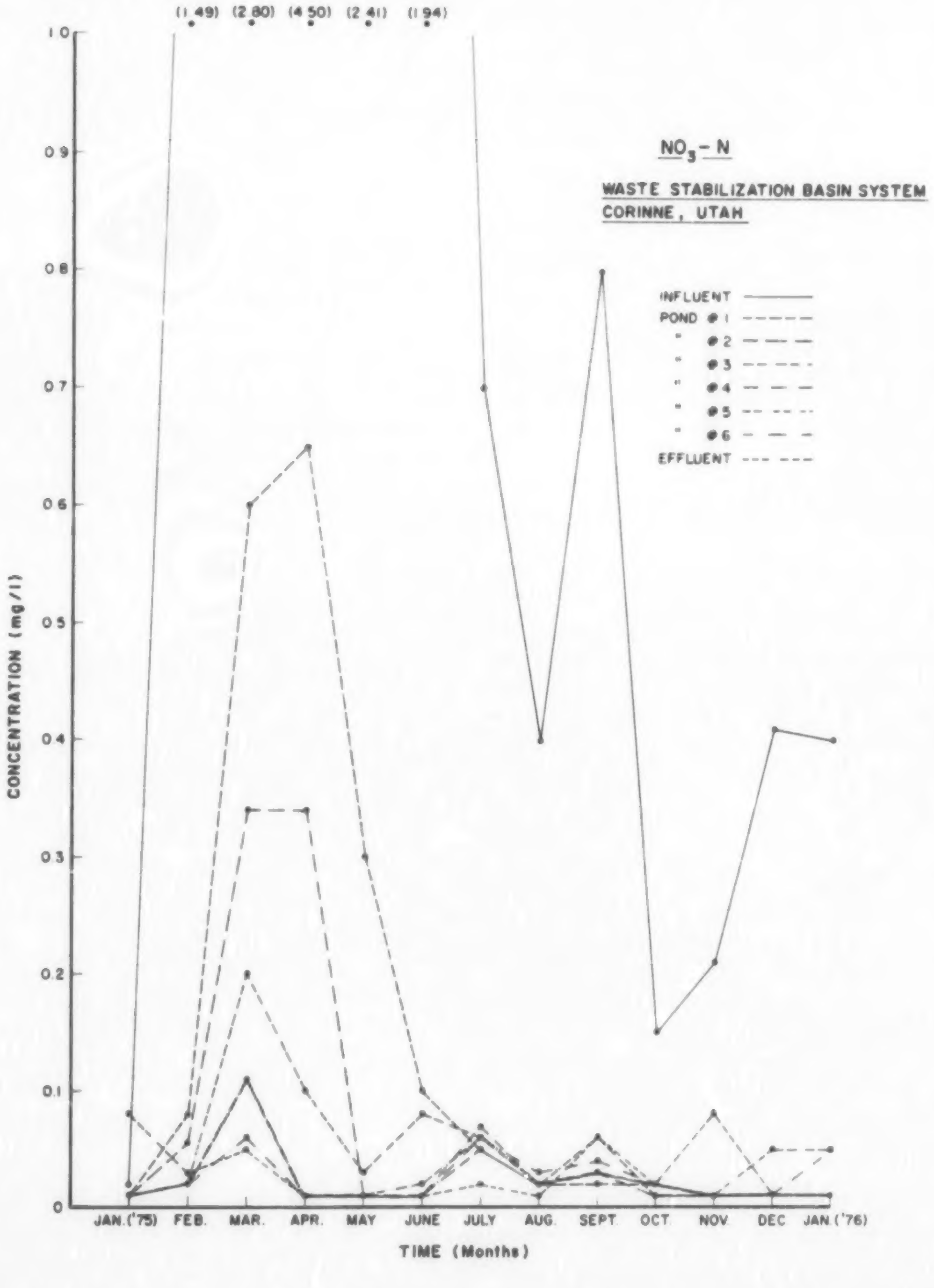

Figure 20. Monthly average nitrate-nitrogen ($NO_3$-N) performance of each pond in the Corinne Waste Stabilization Lagoon System.

A possible explanation for the increase in the $NO_3$-N concentration is the addition of snowmelt and runoff from spring rains which would contain relatively high concentrations of $NO_3$-N. Feedlot and agricultural land runoff would contain adequate $NO_3$-N to account for the increase observed. This influx of nutrient from outside sources would continue throughout the year and be especially strong during the irrigation season. However, during that same period heavy biological activity in the pond system would assimilate most of the incoming nutrient. All of the pond effluents have very low concentrations of $NO_3$-N throughout the majority of the year, indicating the possibility of nitrogen limitation in the Corinne system.

### Total Kjeldahl Nitrogen (TKN)--

The Kjeldahl method is used to determine the organic nitrogen concentration and $NH_3$-N concentration. Total Kjeldahl nitrogen - ammonia nitrogen = organic nitrogen. Monthly mean TKN concentrations for the raw sewage influent and the effluent from each pond are summarized in Table 39 and Figure 21 shows the variation in TKN concentrations with time for the Corinne system. A complete listing of the data is shown in Appendix B, Table B-15.

Figure 21 shows the influence of both spring and fall overturn on the TKN concentration of effluent from each pond. Similarities between the TKN variation and the variation in total phosphorus concentration can be seen by comparing Figures 17 and 21. During the spring overturn the effluent TKN concentrations from each pond increased with the input of nutrients from the bottom areas of the lagoons. The general spring peak occurred in March 1975 and reached a monthly average concentration of 11.97 mg/l for the effluent from Pond Number 2. The TKN concentration peak occurred one month prior to the main spring peak reached in April 1975 by the majority of the parameters. Following the March 1975 peak, TKN levels declined as nitrogen compounds were utilized to support biological growth. The availability of additional organic nitrogen was shown during the fall period by staggered increases in the TKN concentrations beginning with the effluent from Pond Number 1 in August 1975 and continuing through to Pond Number 5 in November 1975. These increases were not as significant as those observed in the spring period, but they did reach a

Table 39. Monthly average Total Kjeldahl Nitrogen (TKN) performance of each pond in the Corinne Waste Stabilization Lagoon System.

TKN (MG/L)

FROM EPA LAB MONTHLY AVERAGES

| MONTH | INFLUENT | POND 1 | POND 2 | POND 3 | POND 4 | POND 5 | POND 6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| JAN-75 | 19.31 | 14.04 | 8.87 | 7.19 | 3.56 | 3.48 | 2.10 | 2.28 |
| FEB | 15.50 | 15.25 | 12.17 | 10.56 | 8.49 | 6.74 | 6.87 | 3.10 |
| MAR. | 12.24 | 11.35 | 11.97 | 11.53 | 10.60 | 10.58 | 7.95 | 5.64 |
| APR. | 12.19 | 8.70 | 8.03 | 8.63 | 9.26 | 8.53 | 7.25 | 5.92 |
| MAY | 13.53 | 7.45 | 6.11 | 5.35 | 5.71 | 6.99 | 4.23 | 3.97 |
| JUNE | 10.15 | 6.70 | 6.85 | 4.82 | 5.09 | 4.81 | 3.88 | 3.60 |
| JULY | 7.35 | 6.60 | 6.94 | 6.01 | 2.80 | 2.87 | 2.50 | 2.37 |
| AUG. | 9.63 | 8.65 | 7.56 | 5.87 | 2.28 | 1.85 | 1.76 | 1.72 |
| SEP. | 13.77 | 8.07 | 8.09 | 6.87 | 3.01 | 1.67 | 1.42 | 1.60 |
| OCT. | 14.38 | 8.32 | 7.57 | 7.18 | 5.62 | 2.48 | 1.59 | 1.64 |
| NOV. | 17.32 | 8.48 | 6.92 | 6.75 | 6.46 | 3.97 | 1.99 | 1.40 |
| DEC. | 22.77 | 7.94 | 5.72 | 6.67 | 6.74 | 3.81 | 2.62 | 1.98 |
| JAN-76 | 23.97 | 11.63 | 7.80 | 7.53 | 7.41 | 5.99 | 3.91 | 3.77 |

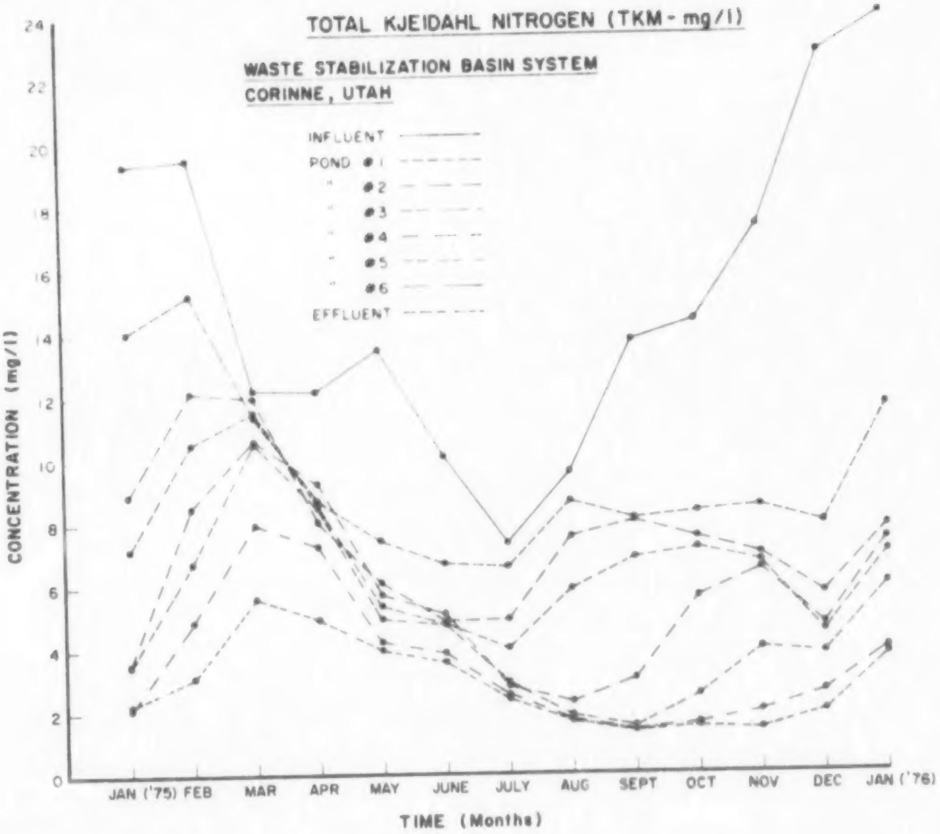

Figure 21. Monthly average Total Kjeldahl nitrogen (TKN) performance of each pond in the Corinne Waste Stabilization Lagoon System.

maximum concentration of 8.65 mg/l for the effluent from Pond Number 1 during August 1975. The effluents from Pond Numbers 6 and 7 showed no significant changes in TKN concentrations during the fall overturn.

Ice cover and low light levels predominated from December 1975 onward into the winter and caused a decrease in biological activity. With the utilization of the organic nitrogens reduced, a corresponding buildup followed until the following spring and the return of higher levels of biological activity.

Yearly means for TKN ranged from 14.07 mg/l in the raw sewage influent to 2.95 mg/l in the final effluent. The most significant reduction in TKN occurred in Pond Number 1 where the yearly effluent mean concentration was reduced to 9.43 mg/l, a reduction of 33 percent. Statistically each pond provides improvement over the previous pond except for the change between Pond Number 6 and the final effluent at Pond Number 7. The reduction in TKN between those two ponds is less than 1.0 mg/l (see Table 40).

In summary, changes in TKN concentrations as the wastewater flows through the Corinne system shows nutrient usage throughout the yearly cycle. Winter accumulation is followed by spring release and heavy summer assimilation by the microorganisms. The pattern of concentration is very similar to that shown for total phosphorus in Figure 17.

Algae--

Samples from the wastewater stabilization lagoons were examined for algal content, both type and quantity, on a regular basis. Figure 22 graphically refers to the total algal concentration (#/ml) found in the system. Table 41 contains the monthly averages from which Figure 22 was prepared. A complete listing of the algae by genera identified in the system is found in Appendix C, Table C-1.

Table 40. Statistical comparison of the average yearly Total Kjeldahl Nitrogen (TKN) performance of each pond in the Corinne Waste Stabilization Lagoon System.

| TKN (mg/l) | From EPA Lab Statistical Data | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| Mean | 14.0698 | 9.4297 | 7.7772 | 7.0153 | 5.8807 | 4.7386 | 3.5767 | 2.9495 |
| Standard Deviation | 7.5890 | 3.9628 | 3.0476 | 2.8312 | 3.1564 | 3.3449 | 2.3660 | 1.9929 |
| Coeff. of Var. | 0.5394 | 0.4203 | 0.3919 | 0.4036 | 0.5367 | 0.7059 | 0.6615 | 0.6757 |

LSR(2) = 1.0000
LSR(3) = 1.0000
LSR(4) = 1.0000
LSR(5) = 1.0000
LSR(6) = 1.0000
LSR(7) = 1.0000
LSR(8) = 1.0000

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[a] Means not underlined by a common line are significantly different.

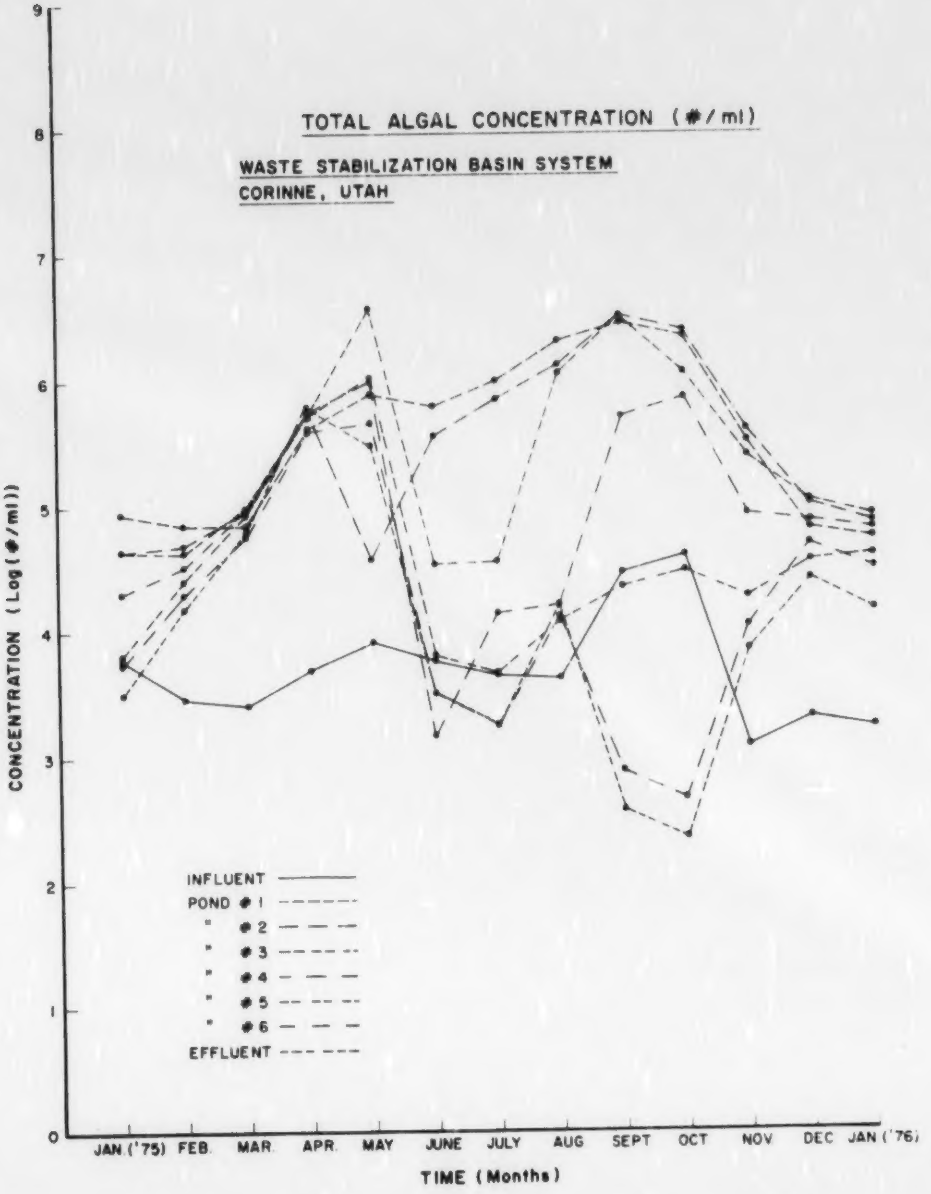

Figure 22. Total algal concentration in the raw sewage influent and the effluent from each pond in the Corinne Waste Stabilization Lagoon System.

Table 41. Monthly average algal concentration in the raw sewage influent and the effluent from each pond in the Corinne Waste Stabilization Lagoon System.

| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
|---|---|---|---|---|---|---|---|---|
| Jan (75) | 5,981 | 84,455 | 43,212 | 44,323 | 20,320 | 6,299 | 5,537 | 3,251 |
| Feb | 29,435 | 68,561 | 47,783 | 41,408 | 31,998 | 25,771 | 22,031 | 14,795 |
| Mar | 2,644 | 69,926 | 86,137 | 93,358 | 88,478 | 85,994 | 59,315 | 63,438 |
| Apr | 4,880 | 387,222 | 613,774 | 514,328 | 530,376 | 563,666 | 418,264 | 603,005 |
| May | 8,121 | 761,424 | 375,151 | 3,713,165 | 1,045,650 | 980,850 | 464,014 | 299,423 |
| Jun | 5,703 | 598,192 | 356,220 | 33,664 | 1,491 | 6,409 | 3,346 | 3,244 |
| Jul | 44,580 | 974,904 | 690,606 | 35,419 | 13,813 | 4,728 | 1,746 | 1,781 |
| Aug | 41,447 | 2,026,738 | 1,291,640 | 1,119,552 | 15,783 | 12,147 | 13,144 | 14,817 |
| Sep | 28,848 | 2,839,864 | 3,165,489 | 3,056,620 | 398,477 | 22,432 | 751 | 375 |
| Oct | 38,446 | 2,181,970 | 2,482,890 | 1,151,030 | 706,090 | 29,241 | 465 | 230 |
| Nov | 1,176 | 316,800 | 396,573 | 239,120 | 82,320 | 18,038 | 11,054 | 6,919 |
| Dec | 1,999 | 65,460 | 98,392 | 103,880 | 70,168 | 35,533 | 48,098 | 25,911 |
| Jan (76) | 1,698 | 55,533 | 70,560 | 82,973 | 63,373 | 39,200 | 30,053 | 14,373 |
| Mean | 16,535 | 802,388 | 747,571 | 776,205 | 236,025 | 140 792 | 82,909 | 80,889 |

Total Algal Concentrations in #/ml.

As shown in Figure 22 the concentration of algae in the influent generally remained lower than in any of the ponds. For most of the year influent algae levels were from 1,000 to 10,000 organisms/ml. The most consistently dominant species in the influent algal flora for the year 1975 were blue-greens with *Oscillatoria* and *Microcystis* being the major forms present. *Microcystis* was found in greater numbers two out of three times when blue-greens dominated and is characteristically found in eutrophic hard water lakes.

Spring thaw, February to May, resulted in rising influent flows and corresponding dilution in algal concentrations of the influent. By mid-July however, algal concentrations in the influent peaked at about 45,000 counts/ml and many green algae could be found in high numbers with *Scenedesmus* being most frequently encountered. During the year algal concentrations in the ponds ranged up to three orders of magnitude higher than those of the influent.

In all of the ponds low winter counts, ranging from 5,000 to 100,000 counts/ml, were dominated by the green algae *Phacotus* with *Scenedesmus* and the blue-green algae *Oscillatoria* and *Microcystis* also being encountered in high numbers. These four species generally represented over 75 percent of the total population.

A strong surge of algal growth followed the low winter period with *Scenedesmus* being the dominant form. Growth was steady and equal throughout all of the ponds until May 1975 when pond algal concentration diversified. Dominant algal form in all ponds in early May was *Scenedesmus*. By late May, however, blue-green algae were dominant in all but Pond Numbers 1 and 2.

Rapid growth in Pond Numbers 1, 3, 4, and 5 occurred in May with decreased growth in Pond Numbers 2, 6, and the effluent. All but Pond Number 2 decreased to a low point in June 1975 with *Scenedesmus*, the dominant algae in Pond

Numbers 1, 2, and 3, Microcystis dominant in Pond Numbers 4 and 5, and a yellow-brown alga Cryptomonas being dominant in Pond Number 6 and the effluent.

All ponds except Pond Number 6 showed an increase in algal concentration from July to October with green algae, especially Scenedesmus as the dominant alga. Late summer and the end of irrigation season caused the influent to become more concentrated. Following this concentrating and accompanying fall turnover, algal counts peaked, ranging from 3,000,000 counts/ml in September for Pond Number 2 to 30,000 counts/ml in October for Pond Number 5. This was also accompanied by increase in the $BOD_5$ levels of all the ponds except Pond Number 6 and effluent. During this same period Pond Number 6 and effluent dropped to a low of 500 counts/ml with Microcystis and Cryptomonas being the most common algae encountered.

By December 1975 and the onset of winter conditions, all ponds returned to approximately the same levels as those recorded for the previous winter. The dominant algae were Scenedesmus and Chlamydomonas as opposed to Phacotus of the previous year.

Pond Number 5 showed little rise in algal concentration during the fall period. Pond Numbers 6 and 7 fell in concentration at this time. A possible explanation for these actions is the effect of aquatic plant growth during the period in question. Heavy growth of aquatic plants occurred in these three ponds during the period from June 1975 to late November 1975. As the plants reached the surface of the lagoon large mats of algae and other material collected to form a light barrier. Under these conditions the growth of algae and other microorganisms was severely impaired and may account for the actions of the algae in Pond Numbers 5, 6, and 7 during the late summer and fall period.

Tolypothrix was the only blue-green alga present with nitrogen-fixing capability. This presence was limited to the influent during September, 1975, and Pond Numbers 2 and 3 during October, 1975. Analysis of the concurrent nitrogen data did not result in an overall significant correlation between increasing $NO_3$-N concentrations and the increasing Tolypothrix population. However, in the influent only during the month of September, 1975, there was a visible increase in $NO_3$-N in the presence of Tolypothrix growth, when compared with the $NO_3$-N levels of the surrounding months.

As with the Tolypothrix data above, it appeared that the blooms of some of the dominant algal genera originated in the influent or primary ponds. These blooms may have served as inoculum for the subsequent blooms in the secondary ponds.

The number of algae per milliliter in each pond when tested in a randomized block design which was blocked on the basis of time yielded an F value of 1.000175 with 7/7 degrees of freedom. This displayed that there was not a significant difference in total number of algae per ml in any of the ponds. But this did not take into account the difference in algal genera or phyla present which could result in a different phytoplanktonic impact on each pond.

### Fecal Coliform--

The results of 12 months of monitoring the fecal coliform die-off in the waste stabilization lagoon system located in Corinne, Utah are shown in Figure 23 for the primary, secondary and tertiary cells. Comparable influent counts are shown in Figure 24. A complete listing of the data is recorded in Appendix D, Table D-1.

Incident solar radiation, recorded at the Utah State University weather station, approximately 48 km (30 mi.) away, is shown in Figure 25 (see Appendix E, Table E-1). Although the USU weather station is in the adjacent valley, it is the closest station recording solar radiation to the Corinne system. Some error in the application of these data to the Corinne system might occur. However, general trends should be similar.

In general, the fecal coliform number in each of the 3 lagoons plotted stayed within two log scales throughout the year. The most noticeable exceptions occurred in January and February under ice cover when the numbers increased by one order of magnitude in each pond. In June, the numbers decreased by one log scale. These effects were most noticeable in the secondary and tertiary ponds. These ponds received relatively stable flows compared to the primary pond which was subject to large variations in flow and influent fecal coliform concentrations.

The daily and weekly fluctuations which occurred in the ponds throughout the year followed the same pattern for all 3 ponds.

Comparison of the solar data with the fecal coliform numbers in the lagoons shows that, in June, solar radiation was at a maximum when the fecal coliform count was at a minimum. Conversely, in January and February, the solar radiation was at a minimum when the counts were at a maximum. Also, in January and February, the lagoons were iced over and anaerobic at times (Appendix E, Table E-1).

Temperature data (Appendix E, Table E-1) for the lagoons indicated that spring overturn started in early March. By March 12, overturn ended and the waters warmed. However, about March 25, pond temperatures fell again and another overturn period occurred with the pond water warming to greater than 4°C by April 5.

The two overturn periods were reflected in the fecal coliform counts during March. During the first overturn period in early March, fecal coliform counts increased. The period between overturns showed decreased numbers of fecal coliforms with the count increasing during the second overturn period and dropping again afterwards. Increased counts during overturn could be the result of the circulation of organisms which had settled or due to the short exposure times of the circulating organisms to solar radiation. Increased nutrient concentrations during overturn could also decrease die-off by providing substrates for these organisms. The effects of fall overturn are not readily apparent in the fecal coliform data.

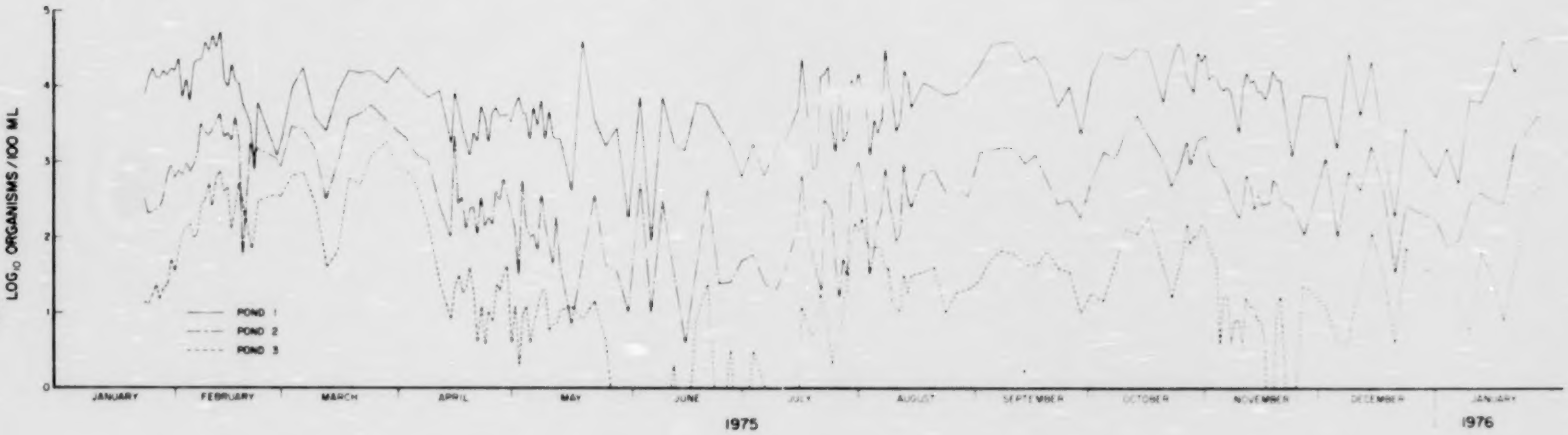

Figure 23. Fecal coliform counts in Pond Numbers 1, 2, and 3 of the Corinne Sewage Lagoon System, Corinne, Utah (January 23, 1975-January 30, 1976).

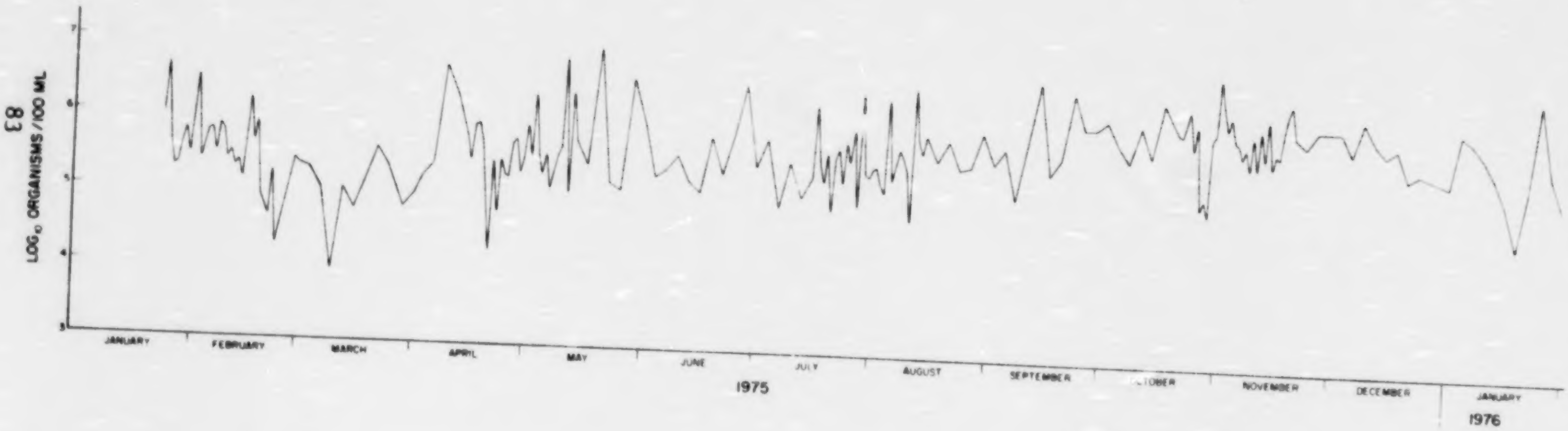

Figure 24. Fecal coliform counts in the influent to the Corinne Sewage Lagoon System, Corinne, Utah (January 23,1975-January 30, 1976).

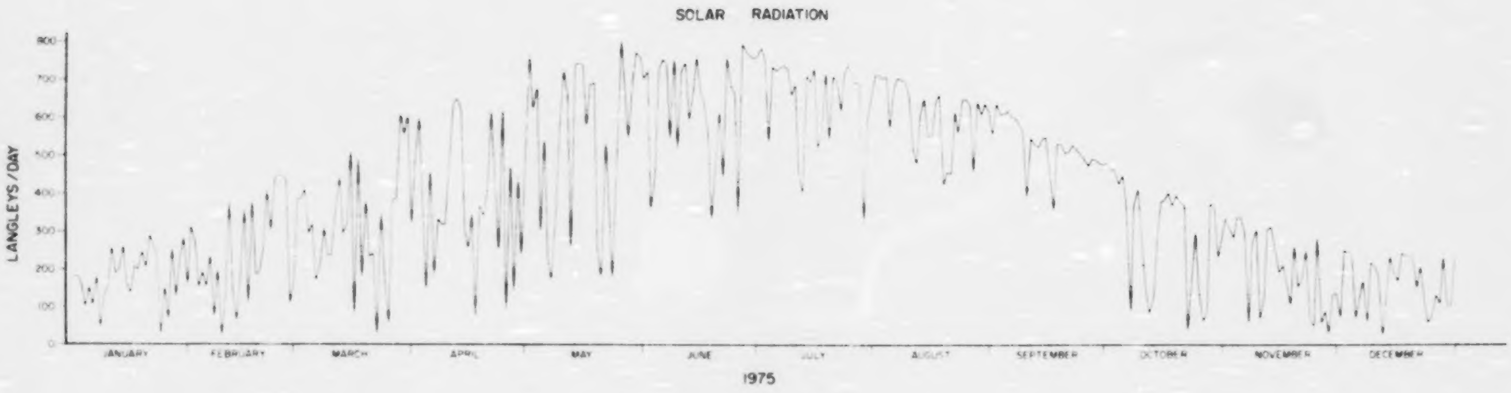

Figure 25. Incident solar radiation from January 1-December 31, 1975, recorded at Utah State University, Logan, Utah.
1 Langley = 1 gram calorie/cm$^2$.

Throughout the year, a period of high or low solar radiation occurred which was reflected in the fecal coliform numbers in the lagoons. Most daily fluctuations in radiation are not discernible in the lagoon fecal coliform data.

A sharp increase in solar radiation was recorded from May 13-15 and a corresponding decrease in fecal coliform numbers occurred on sample day May 16. June 16-21 showed a decrease in incident solar radiation which was reflected in increased fecal coliform numbers for sampling days June 18 and 21. Both cases appear to have a lag period between the change in radiation and the appearance of the effect in the bacteria data. However, since daily fecal coliform sampling did not occur, it is not possible to conclude that a lag phase is present. The lag could be due to the flow in the system.

The mean monthly fecal coliform bacteria concentration for the raw sewage influent and the effluent from each pond in the system is illustrated in Figure 26. At no time during the 13 month study period did the final effluent fecal coliform concentration exceed the federal effluent fecal coliform standard of 200 colonies/100 ml, or the State of Utah effluent fecal coliform standard of 20 colonies/100 ml. As Figure 26 indicates both the federal and State of Utah effluent discharge requirements for fecal coliform were satisfied after the wastewater had passed through the third pond in the system. The coliform removal in the Corinne system is due solely to natural forces since disinfection of the effluent is not practical.

Fecal Streptococci Reduction--

Fecal streptococci counts on the primary, secondary and tertiary ponds are presented in Figure 27. Data for the influent (Figure 28) and Pond Numbers 4, 5, 6, and 7 (Figure 29) are also included. A complete listing of the data is presented in Appendix D, Table D-2. While few fecal coliforms remain after the third pond, fecal streptococci remained in significant numbers throughout the 7 cell system. This result is in direct conflict with Neuhold et al. (1971) who found few organisms remaining past the secondary pond.

Fecal streptococci die-off trends throughout the year paralleled the fecal coliform trends for the first 3 lagoons. However, the die-off from one cell to the next was not as great and frequently increases in numbers occurred. Increased numbers were observed in January and February during the decreased solar radiation-anaerobic period for the fecal streptococci also. In June, the increase in solar radiation showed a corresponding decrease in fecal streptococci.

The fecal streptococci numbers in Pond Numbers 4, 5, 6, and 7 appeared more erratic. The numbers of fecal streptococci frequently increased instead of decreased as the flow proceeded through the system. However, in June, a marked decrease in numbers occurred. Low radiation and anaerobic conditions in January and early February coincided with increased numbers in these cells also. A large increase in fecal streptococci in the last 4 cells occurred in early April. This increase corresponded to spring overturn as shown by the temperature data for these ponds.

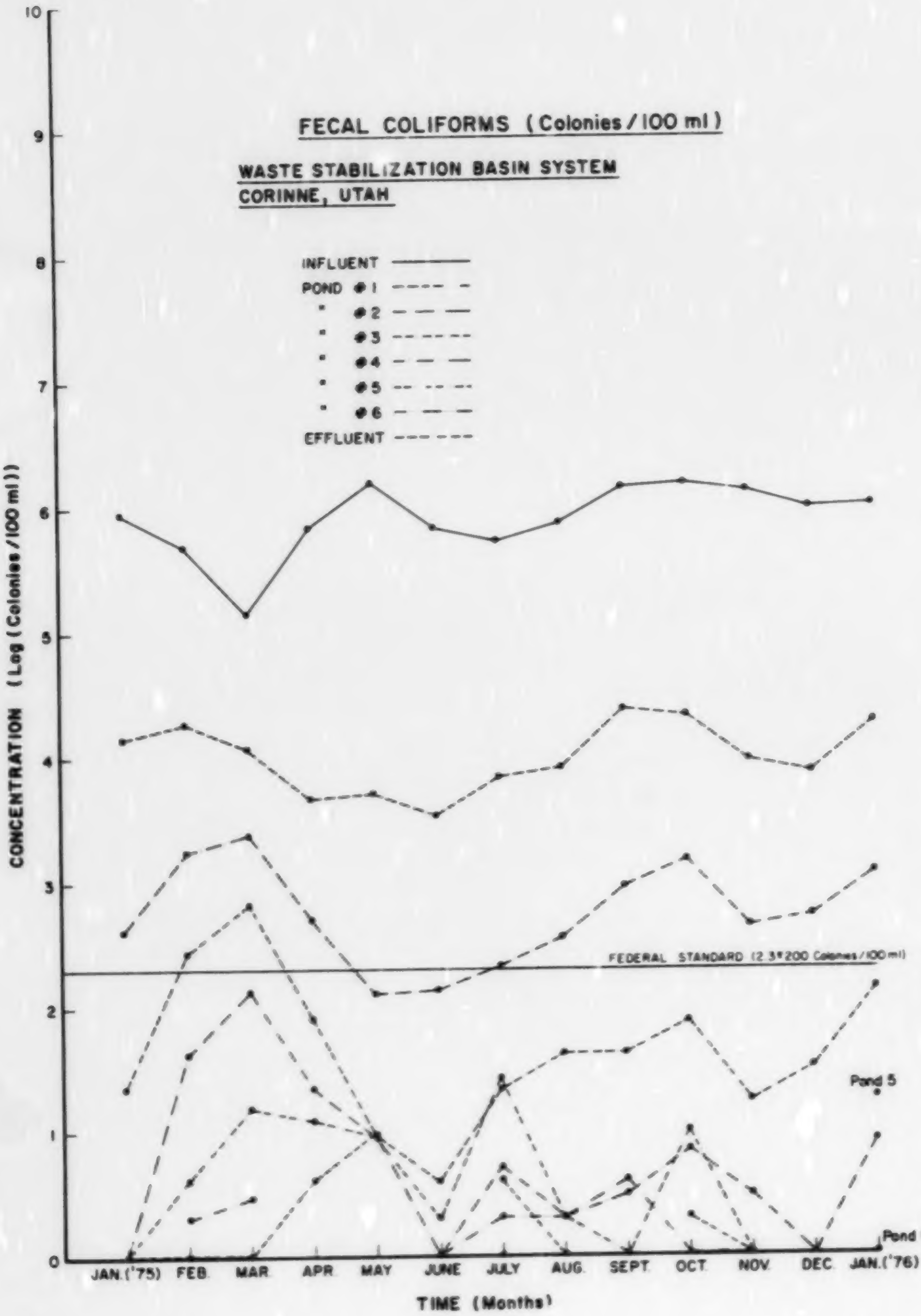

Figure 26. Mean monthly fecal coliform bacteria concentrations of the raw sewage influent and effluent from each pond in the Corinne Waste Stabilization Lagoon System.

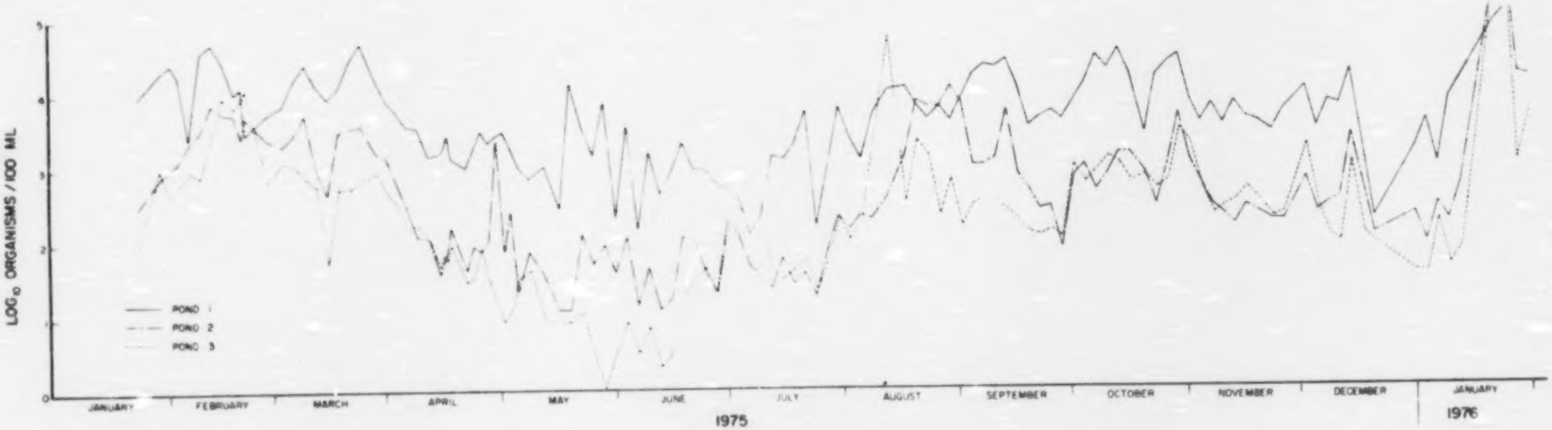

Figure 27. Fecal streptococci counts in Pond Numbers 1, 2, and 3 of the Corinne Sewage Lagoon System, Corinne, Utah (January 23, 1975-January 30, 1976).

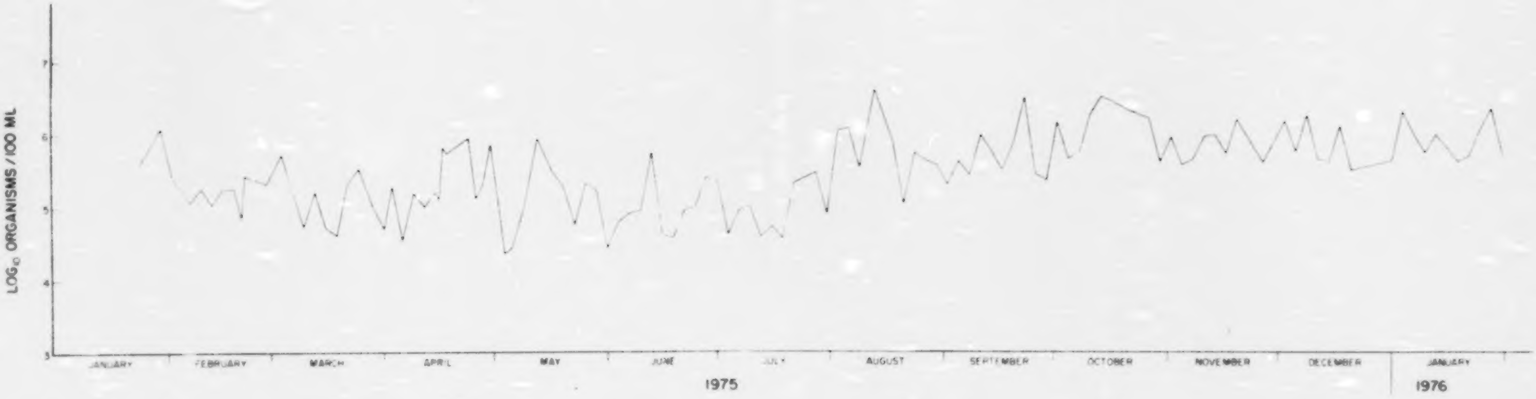

Figure 28. Fecal streptococci counts in the influent to the Corinne Sewage Lagoon System, Corinne, Utah (January 23, 1975-January 30, 1976).

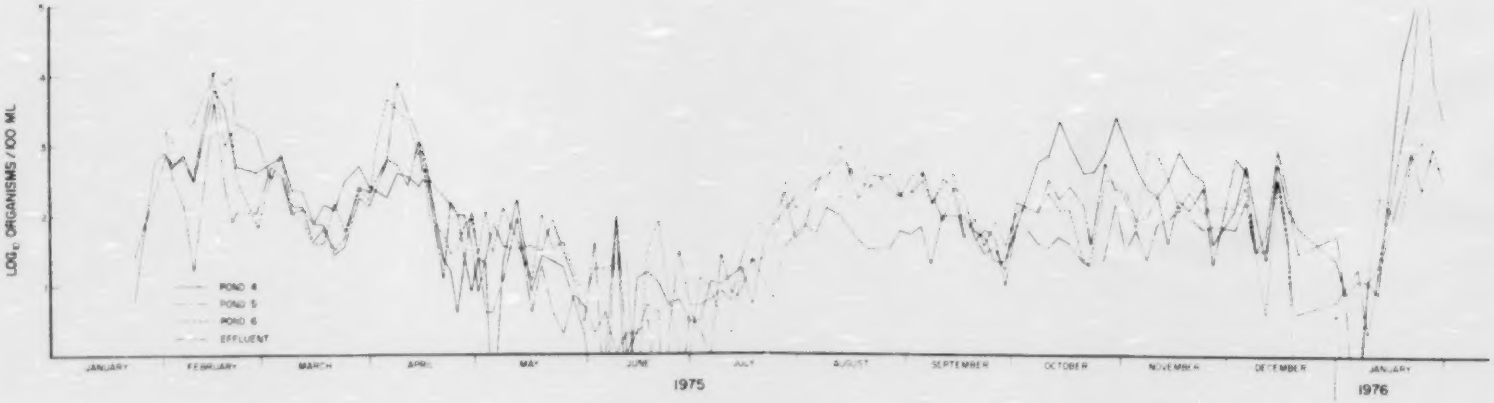

Figure 29. Fecal streptococci counts in Pond Numbers 4, 5, 6, and 7 of the Corinne Sewage Lagoon System, Corinne, Utah (January 23, 1975-January 30, 1976).

Currently no federal or State of Utah effluent discharge standard for fecal streptococci bacteria exists for wastewater lagoons.

### Statistical Implications of Fecal Coliform and Fecal Streptococci--

Fecal coliform, fecal streptococci, and solar radiation data for each period of 30 consecutive days of sampling (one period each season) and for the month of June were analyzed statistically (Table 42). Fecal coliform and fecal streptococci means for each cell in the waste stabilization lagoon system during each period were determined (Tables 43 and 44). These means along with the solar radiation means were ranked and appear in Tables 45, 46, and 47.

Analysis for significant differences at the 95 percent level indicates the lowest levels of both fecal coliforms and fecal streptococci organisms in Pond Numbers 1, 2, and 3 occurred in June when solar radiation was significantly

Table 42. Selected sampling periods and number of days of data (Corinne, Utah Sewage Lagoon System).

| Period | Dates | No. Days of Radiation Data | No. Days of Bacteria Data |
|---|---|---|---|
| $P_1$ | Jan. 23 - Feb. 22 | 31 | 31 |
| $P_2$ | April 20 - May 13 | 30 | 30 |
| $P_3$ | July 15 - Aug. 14 | 31 | 31 |
| $P_4$ | Oct. 20 - Nov. 20 | 32 | 32 |
| $P_5$ | June 3 - June 30 | 30 | 10 |

Table 43. Summary table of fecal coliform means[a] at Corinne, Utah.

| Factor P — Period | Factor S — Sampling Stations | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $S_1$ | $S_2$ | $S_3$ | $S_4$ | $S_5$ | $S_6$ | $S_7$ | $S_8$ |
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| $P_1$ | 5.375 | 3.992 | 2.887 | 1.972 | 0.649 | -0.143 | -0.758 | -0.425 |
| $P_2$ | 5.546 | 3.522 | 2.256 | 1.062 | 0.700 | 0.928 | 0.380 | -0.434 |
| $P_3$ | 5.611 | 3.713 | 2.162 | 1.185 | 0.027 | 0.356 | -0.504 | -0.322 |
| $P_4$ | 6.016 | 4.068 | 2.776 | 1.209 | 0.299 | -0.070 | -0.475 | -0.092 |
| $P_5$ | 5.579 | 3.305 | 1.538 | -0.292 | -0.374 | -0.232 | -0.652 | -0.900 |

[a] Mean of $\log_{10}$ fecal coliforms/100 ml.

Table 44. Summary table of fecal streptococci means[a] at Corinne, Utah.

| Factor P — Period | Factor S — Sampling Stations | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $S_1$ | $S_2$ | $S_3$ | $S_4$ | $S_5$ | $S_6$ | $S_7$ | $S_8$ |
| | Influent | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 | Effluent |
| $P_1$ | 5.319 | 4.128 | 3.328 | 2.894 | 2.499 | 2.497 | 2.575 | 1.649 |
| $P_2$ | 5.332 | 3.212 | 1.933 | 1.472 | 1.467 | 1.790 | 1.948 | 2.034 |
| $P_3$ | 5.464 | 3.307 | 1.945 | 1.903 | 1.692 | 2.132 | 1.900 | 1.724 |
| $P_4$ | 5.937 | 3.824 | 2.692 | 2.729 | 2.725 | 2.125 | 2.224 | 1.703 |
| $P_5$ | 5.025 | 2.904 | 1.632 | 1.074 | 0.512 | 0.141 | 0.831 | 0.481 |

[a] Mean of $\log_{10}$ fecal streptococci/100 ml.

Table 45. Rank means of the solar radiation during the selected periods.

| | Factor P — Period | | | | |
|---|---|---|---|---|---|
| | $P_1$ | $P_4$ | $P_2$ | $P_5$ | $P_3$ |
| Mean solar radiation, Langleys | 204. | 231. | 415. | 633. | 643. |

Means not covered by a common line are significantly different.

Table 46. Ranked fecal coliform means[a] for the selected periods at Corinne, Utah.

| | | | | | |
|---|---|---|---|---|---|
| Influent | $P_1S_1$<br>5.375 | $P_2S_1$<br>5.546 | $P_5S_1$<br>5.580 | $P_3S_1$<br>5.611 | $P_4S_1$<br>6.016 |
| Pond 1 | $P_5S_2$<br>3.305 | $P_2S_2$<br>3.522 | $P_3S_2$<br>3.713 | $P_1S_2$<br>3.992 | $P_4S_2$<br>4.068 |
| Pond 2 | $P_5S_3$<br>1.538 | $P_3S_3$<br>2.162 | $P_2S_3$<br>2.256 | $P_4S_3$<br>2.776 | $P_1S_3$<br>2.887 |
| Pond 3 | $P_5S_4$<br>-0.292 | $P_2S_4$<br>1.062 | $P_3S_4$<br>1.185 | $P_4S_4$<br>1.209 | $P_1S_4$<br>1.972 |
| Pond 4 | $P_5S_5$<br>-0.374 | $P_3S_5$<br>0.027 | $P_4S_5$<br>0.299 | $P_1S_5$<br>0.649 | $P_2S_5$<br>0.700 |
| Pond 5 | $P_5S_6$<br>-0.232 | $P_1S_6$<br>-0.143 | $P_4S_6$<br>-0.070 | $P_3S_6$<br>0.356 | $P_2S_6$<br>0.928 |
| Pond 6 | $P_1S_7$<br>-0.758 | $P_5S_7$<br>-0.652 | $P_3S_7$<br>-0.504 | $P_4S_7$<br>-0.475 | $P_2S_7$<br>0.380 |
| Effluent | $P_5S_8$<br>-0.900 | $P_1S_8$<br>-0.425 | $P_3S_8$<br>-0.322 | $P_4S_8$<br>-0.092 | $P_2S_8$<br>0.434 |

[a] Mean of $\log_{10}$ fecal coliforms/100 ml.

Means not covered by a common line are significantly different.

Table 47. Ranked fecal streptococci means[a] for the selected periods at Corinne, Utah.

| | | | | | |
|---|---|---|---|---|---|
| Influent | $P_5S_1$<br>5.025 | $P_1S_1$<br>5.319 | $P_2S_1$<br>5.332 | $P_3S_1$<br>5.464 | $P_4S_1$<br>5.937 |
| Pond 1 | $P_5S_2$<br>2.904 | $P_2S_2$<br>3.212 | $P_3S_2$<br>3.307 | $P_4S_2$<br>3.824 | $P_1S_2$<br>4.128 |
| Pond 2 | $P_5S_3$<br>1.632 | $P_2S_3$<br>1.933 | $P_3S_3$<br>1.945 | $P_4S_3$<br>2.692 | $P_1S_3$<br>3.328 |
| Pond 3 | $P_5S_4$<br>1.074 | $P_2S_4$<br>1.472 | $P_3S_4$<br>1.903 | $P_4S_4$<br>2.729 | $P_1S_4$<br>2.894 |
| Pond 4 | $P_5S_5$<br>0.512 | $P_2S_5$<br>1.467 | $P_3S_5$<br>1.692 | $P_1S_5$<br>2.499 | $P_4S_5$<br>2.725 |
| Pond 5 | $P_5S_6$<br>0.141 | $P_2S_6$<br>1.790 | $P_4S_6$<br>2.125 | $P_3S_6$<br>2.132 | $P_1S_6$<br>2.497 |
| Pond 6 | $P_5S_7$<br>0.831 | $P_3S_7$<br>1.900 | $P_2S_7$<br>1.948 | $P_4S_7$<br>2.224 | $P_1S_7$<br>2.575 |
| Effluent | $P_5S_8$<br>0.481 | $P_1S_8$<br>1.649 | $P_4S_8$<br>1.703 | $P_3S_8$<br>1.724 | $P_2S_8$<br>2.034 |

[a] Mean of $\log_{10}$ fecal streptococci/100 ml.

Means not covered by a common line are significantly different.

greater than during other periods except the July-August period. For fecal coliforms, the levels were significantly different from other periods of the year in Pond Numbers 2 and 3. Fecal streptococci reduction was greatest during this period but the levels are not significantly different from the spring or mid-summer period in Pond Numbers 2 and 3.

Effects of solar radiation on die-off in the sewage lagoon system were inconclusive. The die-off appears consistent throughout the year with minor fluctuations occurring in June and January-February. The decrease in fecal bacteria in June appears to be related to radiation, but the January-February increase occurs at a time of low solar radiation and anaerobic conditions produced by this low solar radiation. Dissolved oxygen has been investigated by Hanes et al. (1964), as a die-off cause, but the results were somewhat inconclusive. The actual lack of oxygen might not be the cause of the large increase in fecal bacteria numbers. The anaerobic conditions are produced by decreased solar radiation penetration to the lagoons due to ice and snow cover. These conditions result in lack of treatment of the sewage (i.e., lack of BOD removal). This general lack of treatment could be reflected in the high bacteria numbers.

One factor which points to a strong influence from solar radiation on fecal bacteria die-off in the lagoons is the uniform pattern of daily fluctuations which occur in all lagoons at the same time. This suggests an external die-off cause. Chemical data on the lagoons show variations among cells. Algal species also vary among cells. Solar radiation is the one factor which is the same for the entire system and would account for the same fluctuation pattern in all ponds.

Fecal coliform die-off in the 7 cell Corinne system (Figures 23 and 24) appears to be a function of detention time or cell number. The large primary cell reduces the fecal coliforms by two orders of magnitude. Each of the smaller succeeding cells reduce the count by one order of magnitude. The last 3 cells showed very few fecal coliforms consistently throughout the year (average < 20 colonies/100 ml).

Marais (1974) demonstrated that, for reduction of fecal bacteria, a series of ponds is of intermediate efficiency with the efficiency increasing as the number of ponds per total detention time is increased.

He also gave a simple rule to follow for design based on fecal bacteria reduction. For 90 percent reduction—one pond; 99 percent—2 ponds; 99.9 percent—3 ponds; and so on. Marais design rule applies to the Corinne system except for the primary pond where the reduction is 99 percent.

## Performance Summary

### General--

All of the parameters examined for the Corinne system were reduced in concentration by the lagoon system, with the exception of alkalinity, temperature, pH, dissolved oxygen, and total algal concentration. The reduction of the pH, temperature, and dissolved oxygen was not a concern. Reduction percentages for all of the other parameters are listed in Table 48. Also included is a recording of the statistically suggested most effective pond number and the corresponding percent reduction in concentration.

On a yearly basis the Corinne waste stabilization system provided 88 percent removal of the incoming $BOD_5$, 51 percent removal of the suspended solids and 99.99 percent removal of the fecal coliforms. Yearly performance values for the other parameters studied are listed in Table 48.

Table 48 also contains the statistical recommended number of ponds in series for effective treatment at the 95 percent confidence level. It can easily be recognized that the maximum number of effective ponds depends on the parameter in question. Though five ponds would be sufficient for effective $BOD_5$ removal, the number required for total phosphorus removal is seven. In the case of alkalinity and soluble COD better treatment would be achieved by having fewer ponds in the system. This, however, is an exception to the general case, which suggests that the more ponds in the series, the more effective the treatment; especially for the removal of nutrient materials.

All of the parameters examined at the Corinne system showed either direct or indirect effect from the hydraulic mixing forces during the spring and fall of the year. Winter altered the operation of the lagoons and some buildup occurred in the $BOD_5$, SS, COD, alkalinity, total phosphorus, and TKN. However, despite winter conditions effluent stabilization continued. The buildup of materials, particularly those in the nutrient class: total phosphorus, alkalinity, TKN, and $NH_3$-N, was followed by a peak of biological activity and growth during March, April, and May 1975 following the hydraulic mixing in the spring (spring overturn). As biological activity increased, nutrient parameters were

Table 48. Performance summary and recommended numbers of ponds to achieve stated effluent residuals for the Corinne Waste Stabilization Lagoon System.

| Parameter | Influent mg/l | Final Effluent mg/l | Total Reduction % | Number of Ponds Recommended | Measured Quality From Recommended Number of Ponds | |
|---|---|---|---|---|---|---|
| | | | | | Effluent mg/l (yearly average) | Reduction % (yearly average) |
| BOD | 74.62 | 8.91 | 88.06 | 5 | 15.74 | 78.92 |
| SBOD | 21.36 | 2.82 | 86.80 | 4 | 4.03 | 81.13 |
| SS | 69.42 | 33.69 | 51.47 | 5 | 36.49 | 47.44 |
| VSS | 47.88 | 12.45 | 74.00 | 5 | 22.34 | 53.34 |
| COD | 121.51 | 67.19 | 44.70 | 6 | 72.13 | 40.64 |
| SCOD | 48.21 | 46.34 | 3.81 | 1 | 41.26 | 14.42 |
| Alk | 560.02 | 569.27 | -1.65 | 1 | 552.56 | 1.33 |
| Total Phosphorus | 3.99 | 2.06 | 48.37 | 7 | 2.06 | 48.37 |
| $NH_3$-N | 8.18 | 0.25 | 96.94 | – | -- | -- |
| $NO_2$-N | 0.21 | 0.02 | 90.48 | – | -- | -- |
| $NO_3$-N | 1.04 | 0.03 | 97.12 | – | -- | -- |
| TKN | 14.07 | 2.95 | 79.03 | 6 | 3.58 | 74.56 |
| FC[a] | 928673. | 2.40 | 99.99 | 4 | 17.40 | 99.99 |

[a] FC in colonies/100 ml.

reduced by assimilation into micro and macroorganisms. Most of the summer period was characterized by low levels for all of the parameters, particularly the nutrients. Fall produced a second hydraulic mixing (fall overturn), providing additional nutrient material for assimilation by the organisms; triggering a surge of growth in the fall. Lower temperatures and light levels served to curtail the fall peak and forced an alteration of activity to a winter state. Ice formation on the surface of the lagoons in November and December, 1975, sealed the lagoons until spring thaw and the beginning of another yearly cycle.

### Satisfying Federal and State of Utah Discharge Standards--

The biochemical oxygen demand ($BOD_5$) concentration of the final effluent from the Corinne Waste Stabilization Lagoon System never exceeded the federal standard of a 30 day arithmetic mean concentration of less than 30.0 mg/l, or the 7 day arithmetic mean concentration of less than 45.0 mg/l. The monthly average final effluent $BOD_5$ ranged from 1.40 mg/l to 26.53 mg/l. However, it did not satisfy the requirement for 85 percent $BOD_5$ removal 4 of the 13 months studied. The system satisfied the State of Utah $BOD_5$ final effluent standard of less than 10 mg/l 10 of the 13 months studied.

The suspended solids concentration of the final effluent from the system exceeded the federal standard of a 30 day arithmetic mean concentration of less than 30.0 mg/l 3 of the 13 months studied. The federal standard requiring a final effluent 7 day suspended solids concentration of less than 45.0 mg/l was consistently exceeded during the spring overturn (i.e. March, April, May). However, after the spring overturn period, the 7 days studied was not exceeded. The system satisfied the 85 percent removal requirement of the federal standard 8 of the 13 months studied. In addition, it satisfied the State of Utah 30 day average effluent suspended solids requirement of less than 10.0 mg/l 8 of the 13 months studied.

The system never exceeded the federal effluent discharge fecal coliform bacteria standard of less than 200 colonies/100 ml during the entire study, nor did it exceed the same effluent standard for the State of Utah even though disinfection was never practiced. In addition, the system never exceeded the State of Utah's total coliform bacteria studied of 2000 colonies/100 ml during the entire study (see Appendix D, Table D-3).

The system failed to satisfy both the federal and State of Utah effluent pH requirement (range 6.5 to 9.0) 10 of the 13 months studied. Since pH values were measured in situ or on grab samples collected in the early morning (6:00 a.m. to 10:00 a.m.), it is highly possible that final pH values were actually greater than those measured (i.e. monthly average 8.99 to 10.13).

## DESIGN MODEL EVALUATION

### General

Of the four major design methods reported in the literature section and discussed earlier, three were evaluated for effectiveness with the Corinne system data. Oswald's method was not evaluated due to the lack of sufficient data needed to use the design equations. The conditions of the individual model evaluation are listed with each model. In all cases certain limitations are placed on the evaluation by the assumptions that were necessary to fit the Corinne data to the model stipulations.

### Gloyna Method

As detailed in the literature section, the Gloyna method employs Equation 3 to calculate the required volume of a pond system. Verification of Equation 3 was attempted using representative data from the Corinne system.

$$V = 3.5 \times 10^{-5}\ Q\ La\ [\theta^{(35-T)}]\ f\ f' \quad . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \quad (3)$$

To calculate a pond volume, V, the following conditions were employed:

$Q$ = flow (liters/day) = $4.08 \times 10^5$ l/day (January 1975 - influent flow rate)
$La$ = COD = 134.33 mg/l (January 1975 - influent monthly average)
$f$ = algal toxicity factor = 1
$f'$ = sulfide factor = 1
$\theta$ = temperature coefficient = 1.085
$T$ = mean cold weather temperature = 1.5°C (Pond Number 1 surface water temperature, January 1975)

Using the above conditions, Equation 3 yields a surface area of 4.52 hectares (11.17 acres) with a pond depth of 1 meter (3.3 feet). Pond Number 1 has a surface area of 1.49 hectares (ha) (3.69 acres), and the entire Corinne system has a surface area of 3.86 ha (9.52 acres). Gloyna (1975) suggested that in addition to the 1 meter depth an additional 0.5 meters should be added for all systems subject to wide variations in seasonal conditions. One and one-half meters is equivalent to 4.92 ft, or a depth of 0.28 m (0.92 ft) greater than the depth used at the Corinne system.

The Gloyna method shows that approximately 17 percent more area and 20 percent more volume should have been used in the design of the system located at Corinne, Utah. However, considering the variation in experimental design and conditions used to develop the design equation (Gloyna method), the difference is relatively small.

### Marais Method

Three models proposed by Marais for the design of wastewater stabilization basin systems are discussed in the literature section. No attempt will be made to evaluate Marais' third model due to its complexity and the lack of specific data for the model.

Model 1 is based on the first order decay reaction and is shown below as Equation 6.

$$P = \frac{P_i}{K\ R_i + 1} \quad . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \ . \quad (6)$$

From the primary pond of the Corinne system the following data were selected for application to model 1.

$P_i$ = influent $BOD_5$ mg/l = 114.18 mg/l
$R_i$ = retention time in days = 35.1 days
$K$ = 2 (Marais, 1970)

The Corinne data were selected and averaged for the period December 1975-January 1976 (see Table 8). This was the coldest period, and therefore the critical conditions for design. Actual residence times were also available for this time period for Pond Number 1 (see Table 7).

Ignoring temperature effects and using the above values, an effluent quality of 1.6 mg/l $BOD_5$ was predicted by Equation 6. This does not agree with the observed value of 18.81 mg/l, and the most obvious reason was the low temperature of the liquid in the Corinne system during the period selected for evaluation. Model 2 presented by Marais has a temperature correction factor and is shown in Equations 7 and 8.

$$P = \frac{P_i}{K_T R + 1} \quad . . . . . . . . . . . . . . . . . . (7)$$

where

$$K_T = K_{T_o} \theta^{-(T_o - T)} \quad . . . . . . . . . . . . . . . . . (8)$$

with

$K_{T_o}$ = 1.2
$T_o$ = 35°C
$\theta$ = 1.085

Table 49 contains the results generated by evaluating model 2 with data from all of the seven cells of the Corinne system. Data for the calculations were taken from Tables 7 and 9.

With the exception of Pond Number 1, model 2 consistently predicted $BOD_5$ levels lower than those actually encountered in the system. The difference between the predicted and measured values would be less if a mean temperature were used in the calculations rather than the surface water temperature. Mean temperatures for the Corinne system were not measured. The predicted values are approximately 40 percent of the measured levels from the system. In order to produce a more accurate evaluation of model 2, complete temperature data need to be compiled.

### Thirumurthi Method

Thirumurthi proposed three equations for modeling the performance wastewater stabilization basins. Of the three, Equation 17 will be evaluated. Equations 15 and 18 will not be evaluated due to insufficient data. For chemical reactors of a plug flow type, the equation

Table 49. Results obtained from applying Marais (1970) model 2 to the Corinne Waste Stabilization Lagoon System.

| Pond | R (days) | $P_i$ (mg/l) | T °C | $P_m$ (mg/l) | $P_a$ (mg/l) |
|---|---|---|---|---|---|
| 1 | 35.1 | 114.81 | 1.20 | 30.7 | 18.81 |
| 2 | 8.5 | 31.52 | 14.82 | 10.62 | 23.71 |
| 3 | 6.7 | 18.07 | 22.99 | 4.50 | 15.21 |
| 4 | 8.1 | 17.88 | 13.93 | 6.52 | 17.68 |
| 5 | 9.0 | 5.15 | 23.37 | 0.00 | 4.26 |
| 6 | 8.8 | 18.47 | 14.80 | 6.09 | 14.60 |
| 7 | 12.1 | 4.27 | 23.03 | 0.66 | 3.75 |

**R = Residence Time, $P_i$ = Influent BOD, $P_a$ = Effluent BOD actual, $P_m$ = Effluent BOD model, T = Temperature.**

$$\frac{C_e}{C_i} = e^{-Kt} \quad \text{. . . . . . . . . . . . . . . . . .} \quad (17)$$

is appropriate. Although the individual ponds of the Corinne system do not function as plug flow reactors, the system when viewed as a whole does approach plug flow characteristics.

The total theoretical residence time for the Corinne system is 61.6 days at a flow of $7.57 \times 10^5$ l/day ($2.0 \times 10^5$ gal/day), neglecting seepage and evaporation. Equation 19 provides correction factors for the constant K as follows:

$$K = K_s \; C_{Te} \; C_o \; T_{ox} \quad \text{. . . . . . . . . . . . . . .} \quad (19)$$

where

$$C_{Te} = \theta^{(T-20)} \quad \text{. . . . . . . . . . . . . . . . . . .} \quad (20)$$

$\theta$ = 1.036 (Thirumurthi, 1974)

T = temperature = 9.5°C

$$C_o = 1 - \frac{0.083}{K_s}\left[\log_{10}\left(\frac{67.2}{L}\right)\right] \quad \text{. . . . . . . . . . . .} \quad (21)$$

L = organic load in kg/ha/day = 146.33 (74.62 mg/l)

$K_s$ = 0.056 $\text{day}^{-1}$ (Thirumurthi, 1974)

$T_{ox}$ = toxicity factor = 1.0 (Thirumurthi, 1974)

Equations 17, 19, 20, and 21 yield a ratio of $C_e/C_i$ equal to 0.58 which indicates a 42 percent reduction in the $BOD_5$ after passing through the entire Corinne system. The actual reduction in $BOD_5$ was 88 percent for the study year.

## Design Model Evaluation Summary

Of the three model systems evaluated (Gloyna, Marais, and Thirumurthi), only model 2 by Marais (1970) and Thirumurthi's (1974) Equation 17 provides results which are similar to the actual data collected. This suggests the inappropriateness of the given models for this study area and climatic condition. However further study and data collection could facilitate the modification of these and other models making them applicable to this region.

# SECTION 7

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# APPENDIX A

# HYDRAULIC PERFORMANCE DATA FOR THE CORINNE WASTE STABILIZATION LAGOON SYSTEM

Table A-1. Influent and effluent daily flow for the Corinne Waste Stabilization Lagoon System.

HYDRAULIC DATA

AVERAGE DAILY FLOW (GAL/DAY)

| MO | DA | YR | INFLUENT | EFFLUENT |
|---|---|---|---|---|
| 1 | 23 | 75 | 94000 | 7000 |
| 1 | 24 | 75 | 90600 | 7500 |
| 1 | 25 | 75 | 133100 | 9500 |
| 1 | 26 | 75 | 97100 | 10200 |
| 1 | 27 | 75 | 107200 | 8400 |
| 1 | 28 | 75 | 112400 | 7200 |
| 1 | 29 | 75 | 106000 | 43200 |
| 1 | 30 | 75 | 109200 | 5000 |
| 1 | 31 | 75 | 132000 | 25000 |
| 2 | 1 | 75 | 100200 | 11700 |
| 2 | 2 | 75 | 115600 | 9500 |
| 2 | 3 | 75 | 110000 | 8400 |
| 2 | 4 | 75 | 110000 | 22100 |
| 2 | 5 | 75 | 100403 | [illegible] |
| 2 | 6 | 75 | 108400 | [illegible] |
| 2 | 7 | 75 | 106400 | [illegible] |
| 2 | 8 | 75 | 106400 | 14800 |
| 2 | 9 | 75 | 331600 | 26000 |
| 2 | 10 | 75 | 343400 | 18400 |
| 2 | 11 | 75 | 165200 | 12000 |
| 2 | 12 | 75 | 281400 | 6600 |
| 2 | 13 | 75 | 378400 | 11800 |
| 2 | 14 | 75 | 316000 | 6800 |
| 2 | 15 | 75 | 324210 | 7400 |
| 2 | 16 | 75 | 331000 | 7000 |
| 2 | 17 | 75 | 247000 | 6400 |
| 2 | 18 | 75 | 250000 | 7600 |
| 2 | 19 | 75 | 237600 | 9000 |
| 2 | 20 | 75 | 239200 | 9200 |
| 2 | 21 | 75 | 189000 | 6000 |
| 2 | 22 | 75 | 192120 | 299133 |
| 2 | 27 | 75 | 190800 | 356900 |
| 2 | 28 | 75 | 196200 | 336500 |
| 3 | 3 | 75 | 203667 | 295333 |
| 3 | 6 | 75 | 255533 | 270000 |
| 3 | 9 | 75 | 317133 | 266267 |
| 3 | 12 | 75 | 268933 | 214467 |
| 3 | 15 | 75 | 210533 | 134467 |
| 3 | 18 | 75 | 184067 | 99800 |
| 3 | 21 | 75 | 193730 | 128800 |
| 3 | 24 | 75 | 322300 | 202325 |
| 3 | 28 | 75 | 346667 | 206600 |
| 3 | 31 | 75 | 172000 | 138367 |
| 4 | 2 | 76 | 222000 | 194300 |
| 4 | 5 | 75 | 198533 | 154533 |
| 4 | 8 | 75 | 170867 | 95133 |
| 4 | 11 | 75 | 153667 | 66867 |
| 4 | 14 | 75 | 139200 | 67400 |
| 4 | 15 | 75 | 135100 | 67700 |
| 4 | 16 | 75 | 128700 | 136000 |
| 4 | 17 | 75 | 336800 | 159700 |
| 4 | 18 | 75 | 246600 | 185800 |
| 4 | 19 | 75 | 196400 | 164600 |
| 4 | 20 | 75 | 222000 | 179200 |
| 4 | 21 | 75 | 270000 | 117200 |
| 4 | 22 | 75 | 188500 | 107000 |
| 4 | 23 | 75 | 251000 | 124800 |
| 4 | 24 | 75 | 226300 | 127000 |
| 4 | 25 | 75 | 188700 | 142700 |
| 4 | 26 | 75 | 182700 | 145400 |
| 4 | 27 | 75 | 276000 | 162400 |
| 4 | 28 | 75 | 206800 | 141100 |
| 4 | 29 | 75 | 226300 | 154800 |
| 4 | 30 | 75 | 175000 | 99300 |
| 5 | 1 | 75 | 201900 | 101500 |
| 5 | 2 | 75 | 179200 | 89800 |
| 5 | 3 | 75 | 165000 | 71000 |
| 5 | 4 | 75 | 219600 | 99500 |
| 5 | 5 | 75 | 161500 | 202100 |
| 5 | 6 | 75 | 199500 | 41800 |
| 5 | 7 | 75 | 187000 | 130400 |
| 5 | 8 | 75 | 196000 | 143300 |
| 5 | 9 | 75 | 176000 | 123980 |
| 5 | 10 | 75 | 174100 | 107700 |
| 5 | 11 | 75 | 190900 | 87800 |
| 5 | 12 | 75 | 14600 | 58300 |
| 5 | 13 | 75 | 153000 | 64800 |
| 5 | 16 | 75 | 131400 | 36100 |
| 5 | 19 | 75 | 137867 | 60500 |
| 5 | 22 | 75 | 147400 | 70667 |
| 5 | 25 | 75 | 79800 | 40067 |
| 5 | 28 | 75 | 208800 | 44200 |
| 5 | 31 | 75 | 200133 | 108267 |
| 6 | 3 | 75 | 233367 | 131600 |
| 6 | 6 | 75 | 334300 | 121400 |
| 6 | 9 | 75 | 315933 | 161067 |
| 6 | 12 | 75 | 276867 | 34167 |
| 6 | 15 | 75 | 600 | 146567 |
| 6 | 18 | 75 | 65933 | 195367 |
| 6 | 21 | 75 | 140267 | 192167 |
| 6 | 24 | 75 | 118867 | 75067 |
| 6 | 27 | 75 | 140633 | 57267 |
| 6 | 30 | 75 | 151833 | 87100 |
| 7 | 3 | 75 | 99667 | 80900 |
| 7 | 6 | 75 | 68533 | 139367 |
| 7 | 9 | 75 | 8133 | 55167 |
| 7 | 12 | 75 | 328100 | 99833 |
| 7 | 15 | 75 | 275700 | 86200 |
| 7 | 16 | 75 | 217200 | 57300 |
| 7 | 17 | 75 | 193200 | 18400 |
| 7 | 18 | 75 | 217600 | 38100 |

HYDRAULIC DATA

AVERAGE DAILY FLOW (GAL/DAY)

| MO | DA | YR | INFLUENT | EFFLUENT |
|---|---|---|---|---|
| 7 | 19 | 75 | 230400 | 69600 |
| 7 | 20 | 75 | 337200 | 77000 |
| 7 | 21 | 75 | 315900 | 81600 |
| 7 | 22 | 75 | 302500 | 73900 |
| 7 | 23 | 75 | 247000 | 79000 |
| 7 | 24 | 75 | 187000 | 54500 |
| 7 | 25 | 75 | 290500 | 57400 |
| 7 | 26 | 75 | 250300 | 86800 |
| 7 | 27 | 75 | 334700 | 98800 |
| 7 | 28 | 75 | 309500 | 96000 |
| 7 | 29 | 75 | 265400 | 116500 |
| 7 | 30 | 75 | 216800 | 110000 |
| 7 | 31 | 75 | 187200 | 101700 |
| 8 | 1 | 75 | 246600 | 58200 |
| 8 | 2 | 75 | 240000 | 51600 |
| 8 | 3 | 75 | 308500 | 82000 |
| 8 | 4 | 75 | 324000 | 82000 |
| 8 | 5 | 75 | 248000 | 93000 |
| 8 | 6 | 75 | 206600 | 78900 |
| 8 | 7 | 75 | 174000 | 36200 |
| 8 | 8 | 75 | 242400 | 30400 |
| 8 | 9 | 75 | 266500 | 45300 |
| 8 | 10 | 75 | 382000 | 93200 |
| 8 | 11 | 75 | 296000 | 93800 |
| 8 | 12 | 75 | 211600 | 95200 |
| 8 | 13 | 75 | 208100 | 84000 |
| 8 | 14 | 75 | 267433 | 59333 |
| 8 | 17 | 75 | 288333 | 86333 |
| 8 | 20 | 75 | 234800 | 76600 |
| 8 | 23 | 75 | 246867 | 63667 |
| 8 | 26 | 75 | 288533 | 71067 |
| 8 | 29 | 75 | 227467 | 43000 |
| 9 | 1 | 75 | 237333 | 76667 |
| 9 | 4 | 75 | 226933 | 69800 |
| 9 | 7 | 75 | 282400 | 93700 |
| 9 | 10 | 75 | 213133 | 94500 |
| 9 | 13 | 75 | 202367 | 87667 |
| 9 | 16 | 75 | 197667 | 88000 |
| 9 | 19 | 75 | 237167 | 58333 |
| 9 | 22 | 75 | 195833 | 79933 |
| 9 | 25 | 75 | 196167 | 66400 |
| 9 | 28 | 75 | 209333 | 68333 |
| 10 | 1 | 75 | 176667 | 68500 |
| 10 | 4 | 75 | 227333 | 72833 |
| 10 | 7 | 75 | 325833 | 108667 |
| 10 | 10 | 75 | 75583 | 109083 |
| 10 | 13 | 75 | 75583 | 109083 |
| 10 | 16 | 75 | 100 | 96825 |
| 10 | 20 | 75 | 336500 | 69200 |
| 10 | 21 | 75 | 349000 | 56800 |
| 10 | 22 | 75 | 346000 | 52200 |
| 10 | 23 | 75 | 327000 | 21500 |
| 10 | 24 | 75 | 360000 | 10500 |
| 10 | 25 | 75 | 326500 | 8000 |
| 10 | 26 | 75 | 362500 | 27000 |
| 10 | 27 | 75 | 251500 | 49200 |
| 10 | 28 | 75 | 333000 | 138800 |
| 10 | 29 | 75 | 354500 | 143000 |
| 10 | 30 | 75 | 365000 | 131500 |
| 10 | 31 | 75 | 344000 | 133000 |
| 11 | 1 | 75 | 272300 | 123500 |
| 11 | 2 | 75 | 345700 | 108000 |
| 11 | 3 | 75 | 112000 | 100500 |
| 11 | 4 | 75 | 122000 | 90500 |
| 11 | 5 | 75 | 117000 | 76500 |
| 11 | 6 | 75 | 123100 | 40600 |
| 11 | 7 | 75 | 114900 | 53400 |
| 11 | 8 | 75 | 124500 | 77000 |
| 11 | 9 | 75 | 126000 | 64000 |
| 11 | 10 | 75 | 122500 | 27500 |
| 11 | 11 | 75 | 130500 | 23000 |
| 11 | 12 | 75 | 114000 | 19000 |
| 11 | 13 | 75 | 102000 | 18000 |
| 11 | 14 | 75 | 99500 | 16000 |
| 11 | 15 | 75 | 107800 | 17500 |
| 11 | 16 | 75 | 112900 | 20300 |
| 11 | 17 | 75 | 98800 | 19200 |
| 11 | 18 | 75 | 110000 | 128000 |
| 11 | 19 | 75 | 102003. | 340000 |
| 11 | 20 | 75 | 91500 | 87333 |
| 11 | 23 | 75 | 98333 | 43667 |
| 11 | 26 | 75 | 95750 | 93917 |
| 12 | 2 | 75 | 86500 | 833 |
| 12 | 5 | 75 | 104167 | 89500 |
| 12 | 8 | 75 | 128167 | 32833 |
| 12 | 11 | 75 | 96500 | 29067 |
| 12 | 14 | 75 | 99333 | 161600 |
| 12 | 17 | 75 | 8167 | 50333 |
| 12 | 20 | 75 | 6667 | 73667 |
| 12 | 23 | 75 | 0 | 50800 |
| 12 | 31 | 75 | 73667 | 50833 |
| 1 | 3 | 76 | 75333 | 48167 |
| 1 | 6 | 76 | 67667 | 79000 |
| 1 | 9 | 76 | 68333 | 47333 |
| 1 | 12 | 76 | 69667 | 42233 |
| 1 | 15 | 76 | 67667 | 48100 |
| 1 | 18 | 76 | 71900 | 44667 |
| 1 | 21 | 76 | 60500 | 36333 |
| 1 | 24 | 76 | 62833 | 44333 |
| 1 | 27 | 76 | 222833 | 38000 |
| 1 | 30 | 76 | | |

1 gal/day = .003785 $m^3/d$

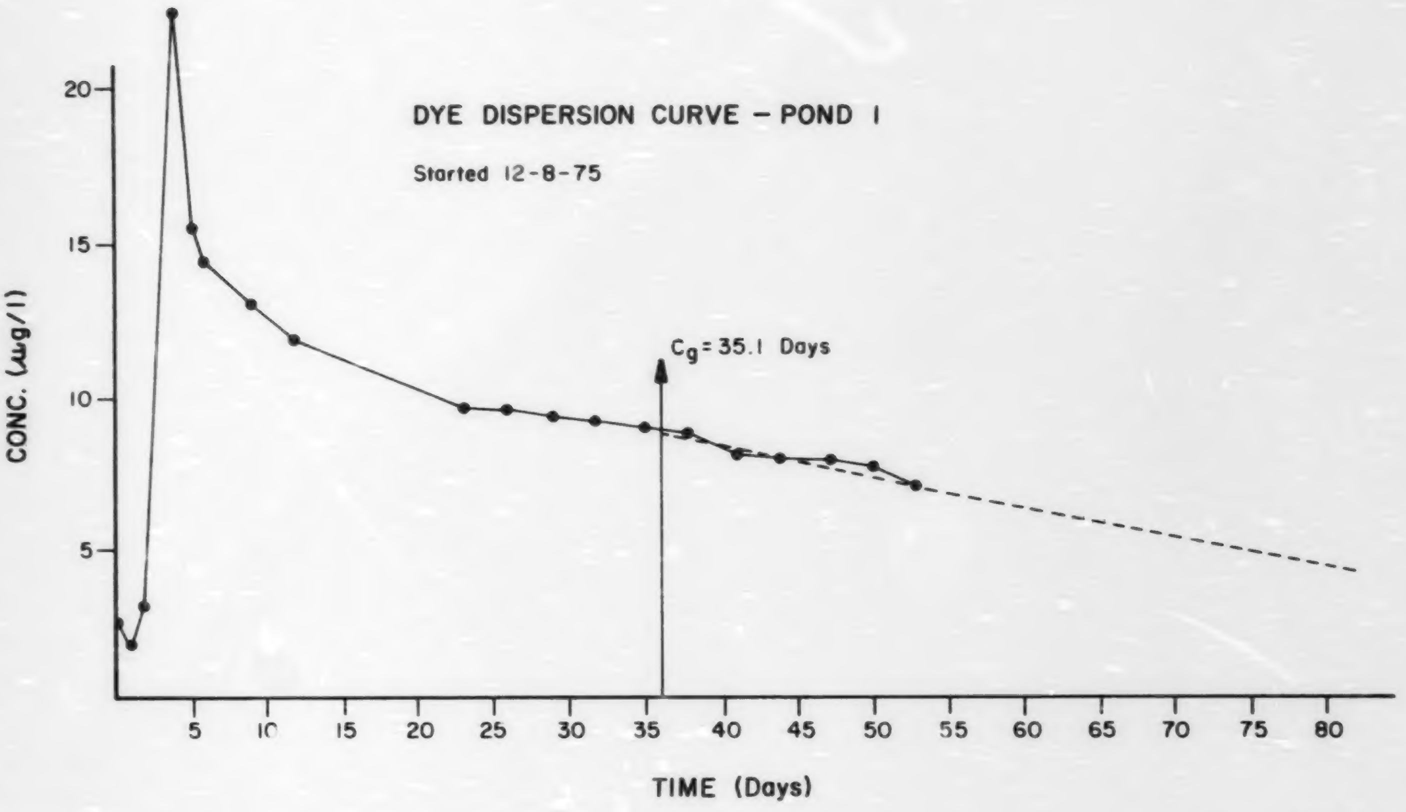

Figure A-1. Effluent dye concentration versus time curve for Pond Number 1 in the Corinne Waste Stabilization Lagoon System.

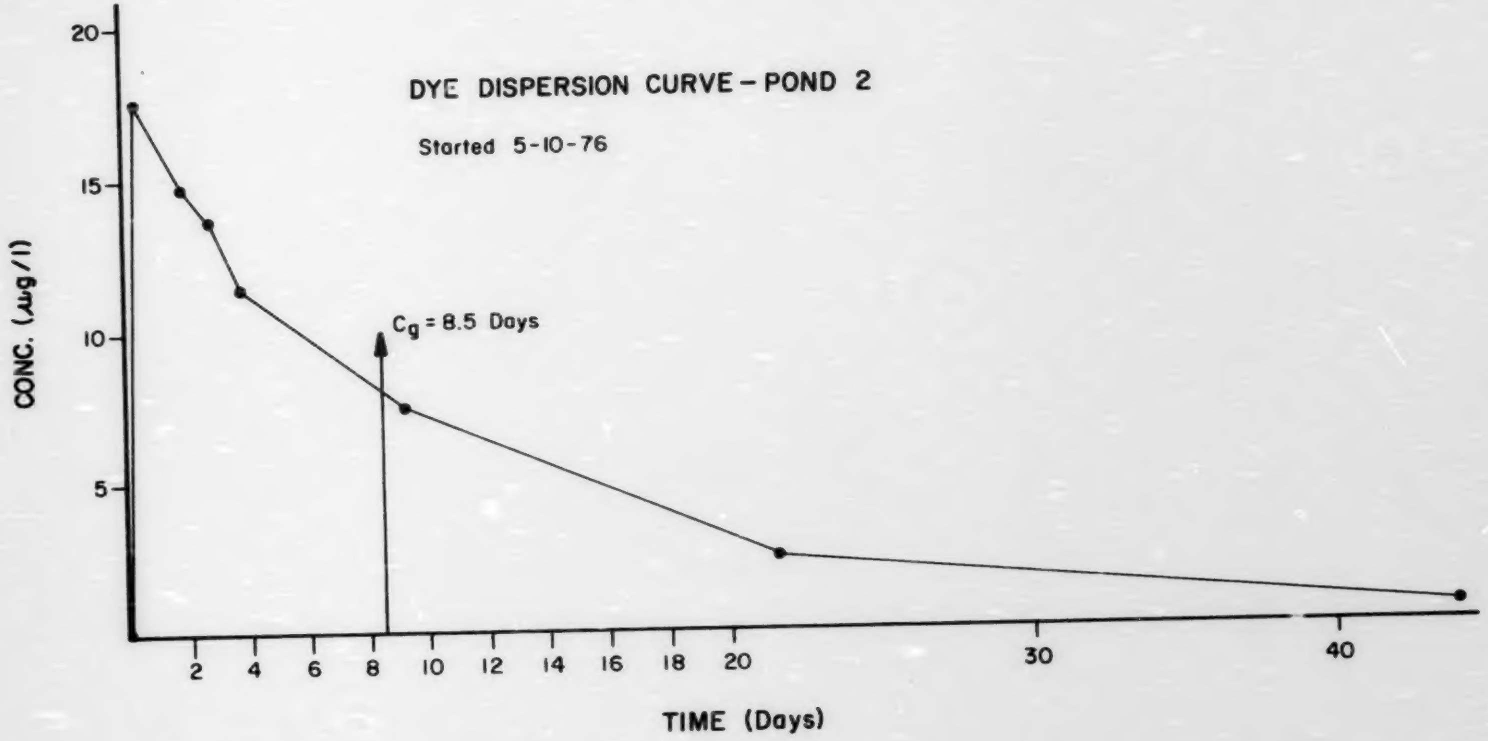

Figure A-2. Effluent dye concentration versus time curve for Pond Number 2 in the Corinne Waste Stabilization Lagoon System.

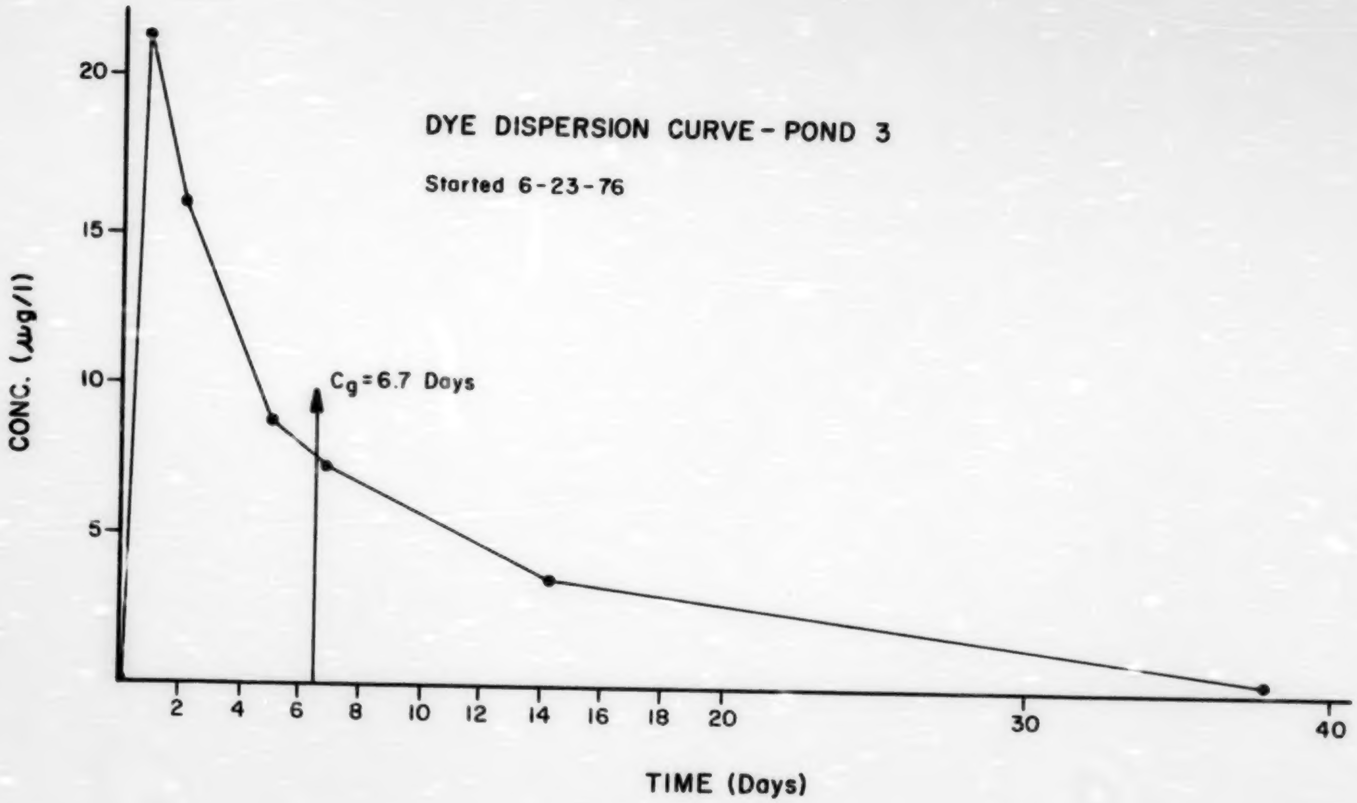

Figure A-3. Effluent dye concentration versus time curve for Pond Number 3 in the Corinne Waste Stabilization Lagoon System.

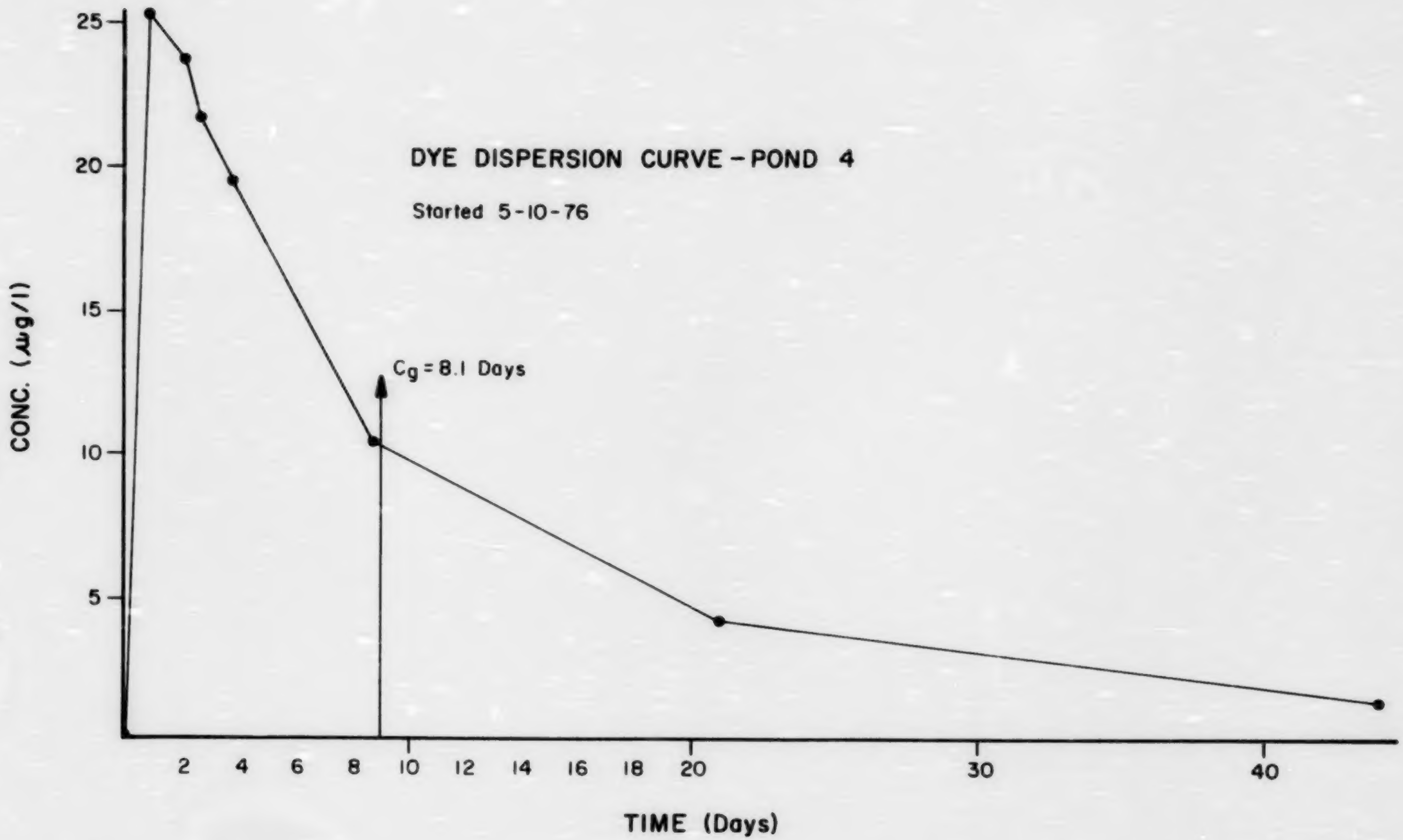

Figure A-4. Effluent dye concentration versus time curve for Pond Number 4 in the Corinne Waste Stabilization Lagoon System.

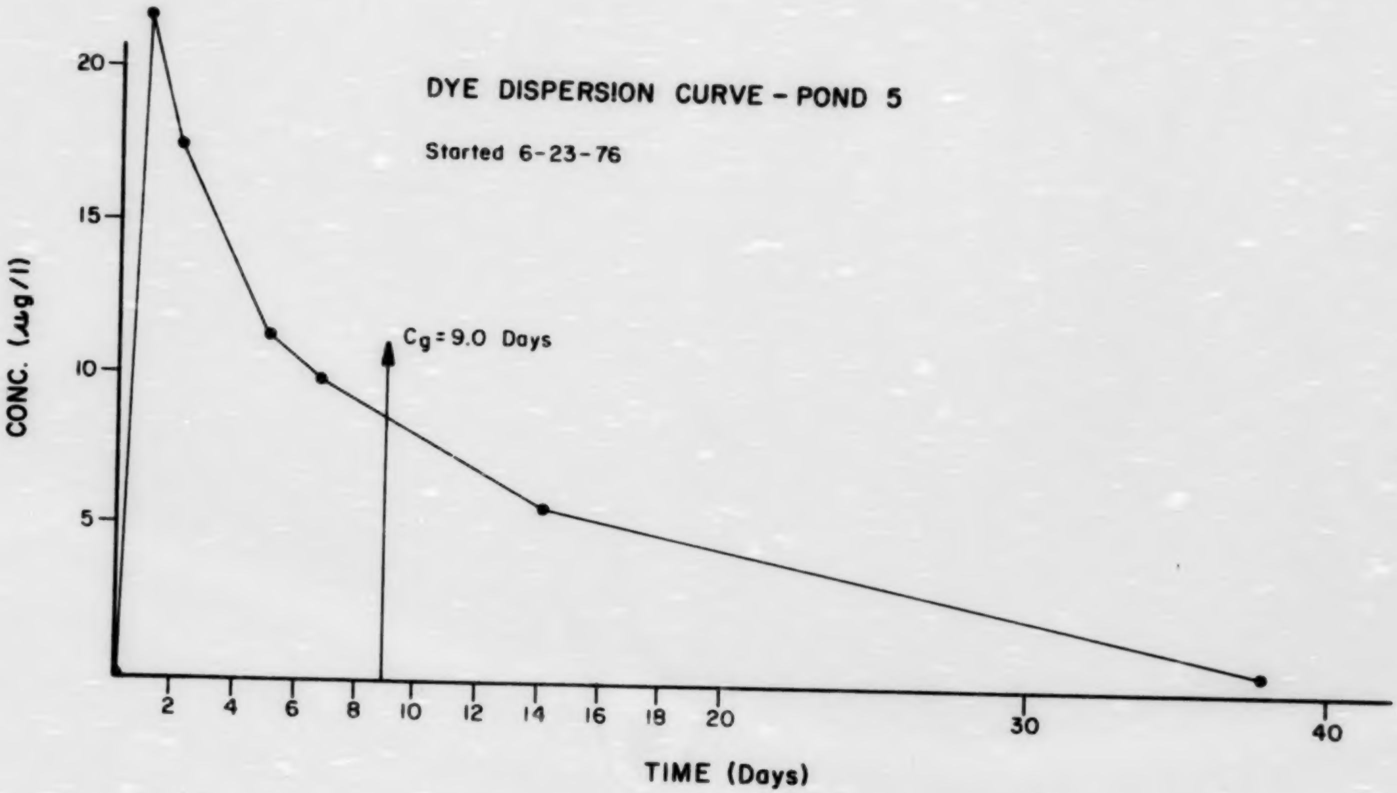

Figure A-5. Effluent dye concentration versus time curve for Pond Number 5 in the Corinne Waste Stabilization Lagoon System.

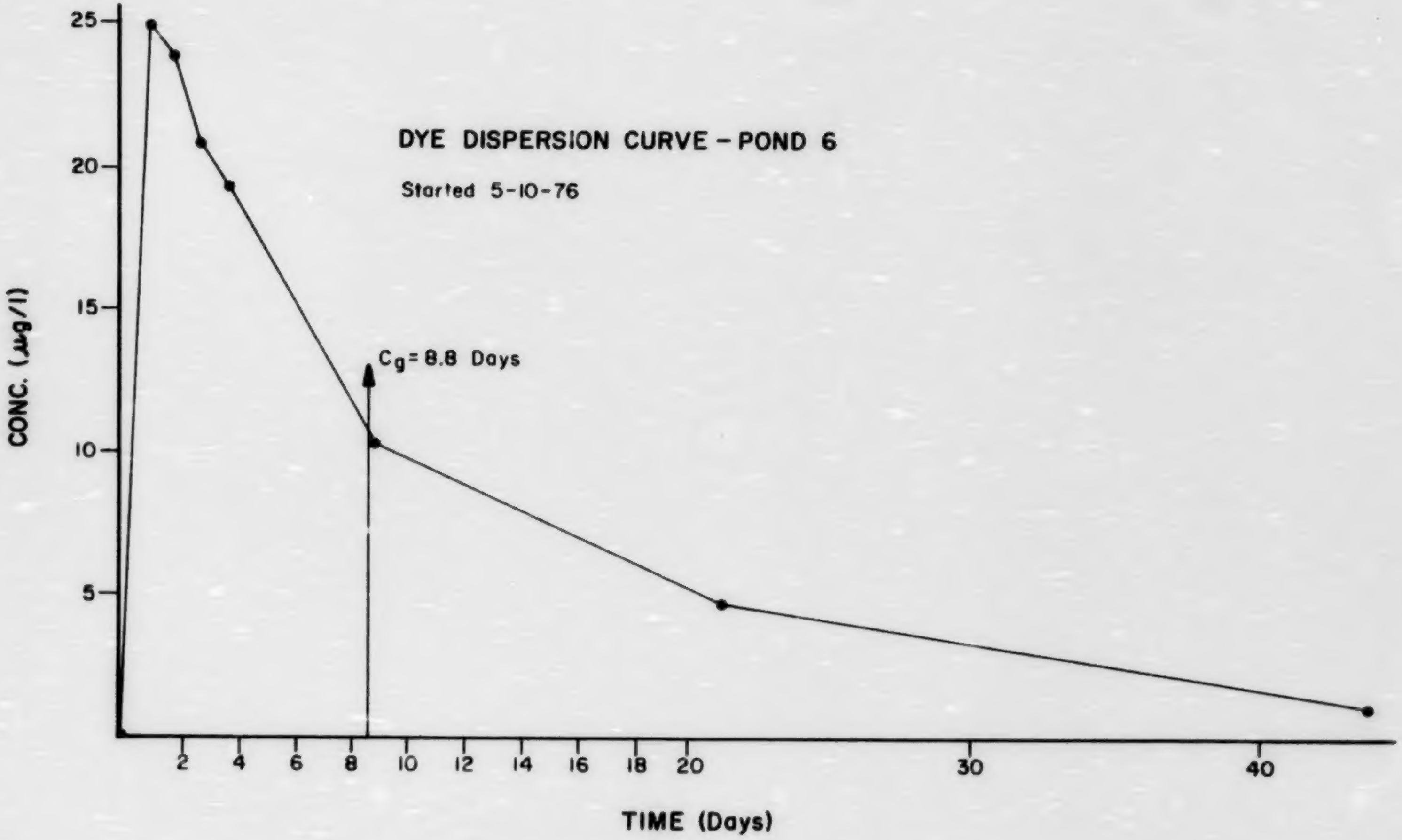

Figure A-6. Effluent dye concentration versus time curve for Pond Number 6 in the Corinne Waste Stabilization Lagoon System.

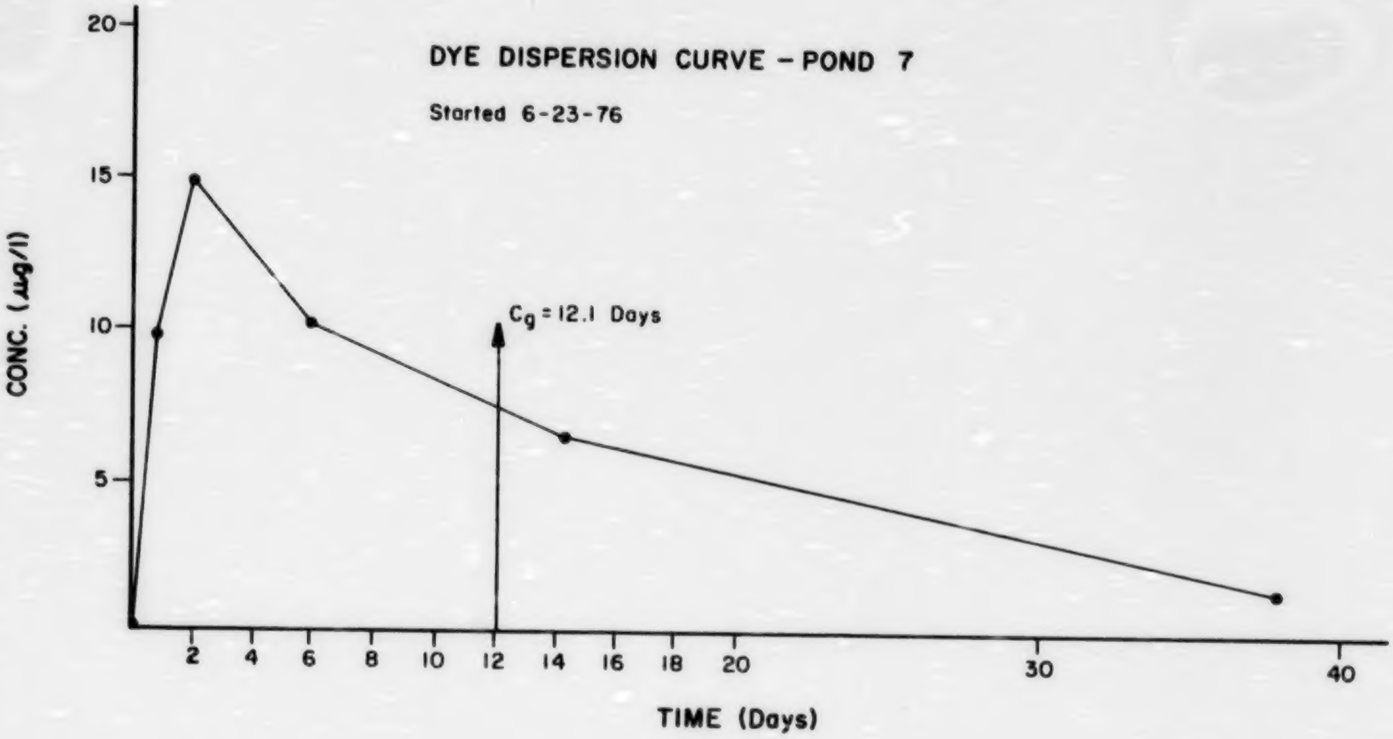

Figure A-7. Effluent dye concentration versus time curve for Pond Number 7 in the Corinne Waste Stabilization Lagoon System.

# APPENDIX B

# CHEMICAL AND BIOLOGICAL PERFORMANCE DATA FROM THE CORRINE WASTE STABILIZATION LAGOON SYSTEM

Table B-1. Biochemical oxygen demand ($BOD_5$) performance of the Corinne Waste Stabilization Lagoon System.

TOTAL BOD(5) (MG/L)

NS = NO SAMPLE, ND = NO DATA, A = POOR DATA, B = BOD4, C = BOD6

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23 | 75 | 90.4 | 26.0 | 20.1 | 24.7 | NS | 9.6 | 5.5 | 4.6 |
| 1 | 24 | 75 | 80.6 | 21.9 | NS | 21.3 | NS | 8.6 | NS | 5.1 |
| 1 | 25 | 75 | 90.5 | 33.8 | 24.6 | 17.7 | 14.8 | NS | 7.0 | 3.8 |
| 1 | 26 | 75 | 88.3 | 24.7 | 29.5 | 23.2 | 15.2 | 9.0 | 7.3 | 3.9 |
| 1 | 27 | 75 | 200.7 | 37.2 | 27.8 | 25.2 | 13.7 | 8.2 | 9.0 | 4.7 |
| 1 | 28 | 75 | 62.1 | NS | 18.9 | NS | >16.3 | 10.9 | 5.5 | 6.6 |
| 1 | 29 | 75 | 203.8 | 35.8 | 30.5 | 19.9 | NS | 11.7 | 8.8 | 4.9 |
| 1 | 30 | 75 | 95.9 | 36.0 | 19.0 | 24.8 | 15.6 | 12.3 | >9.5 | NS |
| 1 | 31 | 75 | 173.6 | 33.9 | 24.5 | 20.3 | 19.7 | 12.8 | >9.0 | 5.8 |
| 2 | 1 | 75 | 447.5 | 40.0 | 31.6 | 23.7 | 21.2 | 13.6 | >8.9 | 6.0A |
| 2 | 2 | 75 | 158.8 | 52.2 | 28.2 | 28.7 | 27.4A | >13.8 | >8.6 | >6.2 |
| 2 | 3 | 75 | 90.5 | 47.1 | 34.0 | 29.0 | 25.7A | >12.4 | >8.8 | 6.1 |
| 2 | 4 | 75 | 193.2 | 28.4 | 22.8 | 20.9 | 27.0 | 17.0 | 7.1 | 4.7 |
| 2 | 5 | 75 | 114.0 | 25.8 | 29.6 | 25.3 | 26.1A | 20.6 | 15.2A | 5.9 |
| 2 | 6 | 75 | 76.5 | 32.9 | 33.4 | 30.8 | 18.7 | 24.3 | 19.2 | 5.1 |
| 2 | 7 | 75 | 387.3 | 106.8 | 45.6 | 58.1 | 34.1A | 28.1A | 27.2A | 8.3 |
| 2 | 8 | 75 | 169.8 | 39.5 | 26.9 | 36.4 | 30.3 | 29.3 | 19.6 | 7.1 |
| 2 | 9 | 75 | 177.5 | 36.2 | 33.0 | 34.5 | 31.2 | 18.4 | 18.9 | 6.3 |
| 2 | 10 | 75 | 92.0 | 32.7 | 26.7 | 29.8 | 29.6 | 18.3 | 22.1 | 7.1 |
| 2 | 11 | 75 | 33.1 | 35.3 | 26.9 | 25.3 | 35.2 | 24.4 | 15.3 | 6.4 |
| 2 | 12 | 75 | 42.0 | 55.8 | 21.3 | 26.7 | 23.6 | 17.1 | 11.6 | 8.8 |
| 2 | 13 | 75 | 65.6 | 32.1 | 47.7 | 31.2 | 25.3 | 22.8 | 22.2 | 7.4 |
| 2 | 14 | 75 | 86.8 | 26.8 | 23.1 | 25.5 | 23.2 | 27.3 | 15.9 | 7.0 |
| 2 | 15 | 75 | 33.1 | 25.9 | 24.8 | 15.0 | 21.5 | 24.7 | 20.8 | 6.7 |
| 2 | 16 | 75 | 35.6 | 42.9 | 28.4 | 29.7 | 34.9 | 25.4 | 18.6 | 7.4 |
| 2 | 17 | 75 | 36.0 | 35.3 | 31.7 | 20.9 | 24.7 | 21.5 | 14.8 | 6.5 |
| 2 | 18 | 75 | 69.8 | 40.2 | 22.6 | 27.8 | 27.5 | 22.6 | 15.1 | 7.8 |
| 2 | 19 | 75 | 20.9 | 31.4 | 22.8 | 18.2 | 27.5 | 23.1 | 13.9 | 6.3 |
| 2 | 20 | 75 | 38.6 | 28.6 | 25.5 | 25.2 | 24.2 | 16.1 | 13.1 | 5.4 |
| 2 | 21 | 75 | 26.1 | 22.6 | 20.7 | 30.5 | 26.0 | 19.1 | 12.4 | 5.3 |
| 2 | 22 | 75 | 43.0 | 28.2 | 21.2 | 34.2 | 33.8 | 23.1 | 13.0 | 7.7 |
| 2 | 27 | 75 | 105.3 | 36.5 | 34.6 | 31.2 | 35.2 | 33.2 | 37.2 | 15.5 |
| 2 | 28 | 75 | 39.6 | 31.0 | 21.7 | 39.1 | 26.9 | 30.5 | 22.5 | 16.5 |
| 3 | 3 | 75 | 44.2 | 31.9 | 36.4 | 24.3 | 36.0 | 22.2 | 17.5 | 19.7 |
| 3 | 6 | 75 | 54.0 | 44.8 | 41.5 | 43.1 | 37.2 | 15.4 | 32.6 | 21.3 |
| 3 | 9 | 75 | 22.5 | 47.0 | 48.8 | 30.8 | 30.2 | 34.2 | 18.5 | 18.0 |
| 3 | 12 | 75 | 22.6 | 101.6 | 47.5 | 45.9 | 37.0 | 44.0 | 71.3 | 22.9 |
| 3 | 15 | 75 | 106.7 | 190.4 | 40.3 | 42.2 | 43.2 | 42.5 | 35.0 | 20.1 |
| 3 | 18 | 75 | 49.7 | 34.5 | 33.7 | 32.4 | 35.0 | 41.5 | 36.6 | 23.8 |
| 3 | 21 | 75 | 41.9 | 36.4 | 29.1 | 29.1 | 142.4 | 37.8 | 33.7 | 36.2 |
| 3 | 26 | 75 | 39.4 | 27.6 | 27.7 | 27.8 | 20.5 | 31.5 | 29.5 | 25.3 |
| 3 | 29 | 75 | 175.8 | 25.8 | 24.6 | 28.1 | 28.3 | 35.2 | 16.0 | 27.5 |
| 3 | 31 | 75 | 24.4 | 20.5 | 23.8 | 33.5 | 24.9 | 35.5 | 20.0 | 27.9 |
| 4 | 2 | 75 | 47.8 | 24.3 | 25.9 | 25.7 | 27.0 | 32.9 | 43.3 | 25.7 |
| 4 | 5 | 75 | 25.2 | 21.0 | 20.3 | 20.9 | 31.5 | 28.7 | 25.1 | 24.4 |
| 4 | 8 | 75 | 86.9 | 24.3 | 21.2 | 28.7 | 30.2 | 34.8 | 31.2 | 29.6 |
| 4 | 11 | 75 | 57.7 | 25.8 | 27.8 | 34.3 | 36.8 | 34.7 | 31.1 | 21.9 |
| 4 | 14 | 75 | 46.6 | 41.6 | 40.9 | 44.8 | 33.7 | 41.4 | 37.4 | 23.5 |
| 4 | 15 | 75 | 58.3 | 35.2 | 36.0 | 33.0 | 29.3 | 30.6 | 29.9 | 19.8 |
| 4 | 16 | 75 | 42.9 | 53.9 | 42.1 | 37.7 | 39.2 | 38.4 | 36.1 | 27.7 |
| 4 | 17 | 75 | 50.0 | 37.1 | 35.1 | 31.6 | 37.1 | 45.7 | 36.5 | 22.4 |
| 4 | 18 | 75 | 88.6 | 44.5 | 38.9 | 29.8 | 36.1 | 40.4 | 34.6 | 27.2 |
| 4 | 19 | 75 | 30.5 | 31.0 | 30.2 | 30.3 | 33.1 | 37.3 | 33.2 | 20.4 |
| 4 | 20 | 75 | 35.6 | 39.3 | 31.5 | 45.0 | 33.0 | 33.2 | 30.4 | 31.4 |
| 4 | 21 | 75 | 36.6 | 38.1 | 45.4 | 35.2 | 37.6 | 37.5 | 33.0 | 36.6 |
| 4 | 22 | 75 | 38.9 | 36.8 | 36.4 | 34.1 | 20.5 | 20.5 | 37.4 | 35.0 |
| 4 | 23 | 75 | 40.4 | 42.2 | 39.6 | 36.2 | 39.2 | 37.0 | 35.7 | 33.1 |
| 4 | 24 | 75 | 37.8 | 36.9 | 33.9 | 33.5 | 39.3 | 29.6 | 20.3 | 23.4 |
| 4 | 25 | 75 | 31.2 | 36.7 | 34.6 | 29.5 | 39.5 | 35.6 | 30.7 | 30.8 |
| 4 | 26 | 75 | 24.9 | 25.0 | 24.1 | 25.7 | 31.6 | 31.3 | 25.9 | 23.5 |
| 4 | 27 | 75 | 31.9 | 24.9 | 23.5 | 33.2 | 32.9 | 41.8 | 28.9 | 22.4 |
| 4 | 28 | 75 | 129.5 | 27.5 | 30.4 | 31.3 | 42.0 | 34.2 | 28.8 | 21.5 |
| 4 | 29 | 75 | 43.5 | 29.8 | 28.0 | 33.2 | 40.8 | 42.3 | 31.0 | 24.7 |
| 4 | 30 | 75 | 41.3 | 29.7 | 35.0 | 37.4 | 30.0 | 29.9 | 30.4 | 28.1 |
| 5 | 1 | 75 | 59.8 | 39.2 | 30.9 | 39.1 | 39.0 | 34.2 | 28.1 | 29.1 |
| 5 | 2 | 75 | 38.1 | 33.4 | 39.8 | 36.3 | 39.0 | 37.0 | 33.8 | 26.6 |
| 5 | 3 | 75 | 65.3 | 32.9 | 21.9 | 30.8 | 31.7 | 35.5 | 30.0 | 17.7 |
| 5 | 4 | 75 | 68.0 | 37.5 | 29.9 | 37.0 | 34.9 | 35.8 | 27.4 | 25.9 |
| 5 | 5 | 75 | 62.2 | 29.9 | 35.6 | 36.1 | 32.8 | 25.9 | 26.0 | 21.3 |
| 5 | 6 | 75 | 40.1 | 32.4 | 32.5 | 32.4 | 34.5 | 38.6 | 26.6 | 13.1 |
| 5 | 7 | 75 | 23.0 | 34.3 | 24.2 | 22.2 | 23.1 | 32.0 | 14.3 | 13.1 |
| 5 | 8 | 75 | 29.0 | 33.6 | 29.3 | 33.2 | 35.3 | 22.9 | 23.9 | 18.5 |
| 5 | 9 | 75 | 36.0 | 22.3 | 16.7 | 25.4 | 28.8 | 43.1 | 22.1 | 23.6 |
| 5 | 10 | 75 | 55.3 | 42.2 | 43.8 | 30.1 | 32.7 | 30.9 | 21.6 | 24.3 |
| 5 | 11 | 75 | 46.8 | 61.7 | 46.1 | 33.0 | 32.8 | 31.8 | 17.8 | 19.1 |
| 5 | 12 | 75 | 41.2 | 35.4 | 30.6 | 32.4 | 29.5 | 32.2 | 23.9 | 17.6 |
| 5 | 13 | 75 | 50.5 | 34.0 | 29.5 | 26.1 | 31.0 | 29.4 | 20.6 | 19.2 |
| 5 | 16 | 75 | 59.2 | 18.6 | 7.5 | 17.3 | 11.9 | 9.9 | 16.6 | 14.8 |
| 5 | 19 | 75 | 97.5 | 32.7 | 14.9 | 16.3 | 10.4 | 10.2 | 10.2 | 19.0 |
| 5 | 22 | 75 | 85.1 | 28.6 | 18.4 | 9.7 | 6.8 | 10.6 | 15.2 | 18.9 |
| 5 | 25 | 75 | 160.2 | 28.7 | 11.1 | 9.7 | 8.2 | 6.0 | 15.2 | 19.5 |
| 5 | 28 | 75 | 112.1 | 32.2 | 18.9 | 7.5 | 7.5 | 6.1 | 11.8 | 12.7 |
| 5 | 31 | 75 | 39.5 | 11.0 | 13.6 | 5.6 | 9.0 | 4.5 | 5.4 | 7.0 |
| 6 | 3 | 75 | 39.5 | 37.2 | 11.1 | 8.8 | 23.6 | 5.6 | 6.2 | 9.8 |
| 6 | 6 | 75 | 41.8 | 25.5 | 20.4 | 14.4 | 9.6 | 7.6 | 6.0 | 14.2 |
| 6 | 9 | 75 | 63.4 | 18.9 | 19.1 | 10.0 | 7.9 | 12.8 | 5.6 | 5.1 |
| 6 | 12 | 75 | 68.3 | 41.2 | 12.7 | 8.8 | 9.9 | 27.2 | 9.7 | 9.5 |
| 6 | 15 | 75 | 36.1 | 44.6 | 14.7 | 8.4 | 7.6 | 8.1 | 8.4 | 7.7 |
| 6 | 18 | 75 | 68.8 | 39.8 | 29.8 | 9.9 | 10.7 | 9.8 | 10.2 | 6.8 |
| 6 | 21 | 75 | 19.6 | 19.5 | 18.4 | 13.2 | 7.6 | 6.3 | 6.8 | 10.3 |
| 6 | 24 | 75 | 20.3 | 24.6 | 26.0 | 12.7 | 10.3 | 12.9 | 13.3 | 6.5 |
| 6 | 27 | 75 | 89.3 | 30.3 | 24.7 | 12.0 | 6.9 | 12.6 | 8.7 | 5.1 |
| 6 | 30 | 75 | 63.1 | 19.2 | 17.2 | 6.7 | 6.9 | 15.6 | 7.4 | 4.1 |
| 7 | 3 | 75 | 24.4 | 13.7 | 12.4 | 15.3 | 6.3 | ND | 5.1 | 4.6 |
| 7 | 6 | 75 | 7.5 | 9.5 | 6.1 | 10.2 | 3.9 | 2.9 | 4.5 | 4.3 |
| 7 | 9 | 75 | 75.3 | 14.6 | 8.2 | 6.4 | 5.7 | 8.2 | 7.2 | 4.3 |
| 7 | 12 | 75 | 7.9 | 13.5 | 8.1 | 5.7 | 3.4 | 5.9 | 5.1 | 3.9 |
| 7 | 15 | 75 | 16.1 | 27.0 | 17.1 | 11.8 | 3.6 | 4.6 | 4.3 | 4.2 |
| 7 | 16 | 75 | 25.2 | 25.6 | 17.1 | 10.2 | 4.1 | 5.6 | 6.2 | 3.4 |
| 7 | 17 | 75 | 31.3 | 20.9 | 25.1 | 13.5 | 4.9 | 4.9 | 4.7 | 2.9 |
| 7 | 18 | 75 | 37.7 | 36.4 | 26.3 | 15.3 | 5.7 | 6.3 | 7.0 | 3.5 |

Table B-1. (Continued).

TOTAL BOD(5) (MG/L)

NS = NO SAMPLE, ND = NO DATA, A = POOR DATA, B = GOOD, C = GOO

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 19 | 75 | 30.5 | 29.7 | 21.1 | 8.7 | 2.8 | 6.4 | 4.6 | 2.3 |
| 7 | 20 | 75 | 31.2 | 33.9 | 19.0 | 12.7 | 9.8 | 2.7 | 4.5 | 6.7 |
| 7 | 21 | 75 | 33.8 | 41.1 | 20.5 | 11.2 | 4.4 | 3.9 | 5.0 | 4.5 |
| 7 | 22 | 75 | 27.8 | 29.1 | 18.7 | 11.1 | 4.5 | 3.2 | 2.9 | 2.7 |
| 7 | 23 | 75 | 35.3 | 30.5 | 19.0 | 14.9 | 3.2 | 6.0 | 2.8 | 3.4 |
| 7 | 24 | 75 | 29.5 | 25.9 | 16.5 | 11.9 | 3.4 | 4.0 | 2.6 | 2.8 |
| 7 | 25 | 75 | 35.6 | 32.2 | 20.2 | 19.9 | 6.9 | 3.5 | 2.7 | 5.7 |
| 7 | 26 | 75 | 101.6 | 34.2 | 20.3 | 22.4 | 6.1 | 4.8 | 6.7 | 4.1 |
| 7 | 27 | 75 | 112.4 | 62.0 | 20.1 | 25.5 | 7.2 | 6.2 | 3.6 | 4.8 |
| 7 | 28 | 75 | 60.1 | 35.1 | 16.9 | 22.1 | 7.1 | 3.7 | 2.9 | 3.5 |
| 7 | 29 | 75 | 47.6 | 25.0 | 14.8 | 25.2 | 5.2 | 2.0 | 1.7 | 1.7 |
| 7 | 30 | 75 | 33.0 | 33.0 | 24.2 | 19.6 | 5.0 | 2.7 | 3.2 | 3.1 |
| 7 | 31 | 75 | 41.6 | 24.0 | 19.7 | 17.9 | 5.0 | 2.0 | 2.4 | 2.3 |
| 8 | 1 | 75 | 50.8 | 34.2 | 24.7 | 27.3 | 5.8 | 3.0 | 2.6 | 3.0 |
| 8 | 2 | 75 | 35.7 | 34.4 | 29.0 | 26.9 | 5.0 | 2.9 | 2.6 | 2.7 |
| 8 | 3 | 75 | 37.1 | 29.2 | 32.1 | 24.4 | 8.2 | 3.2 | 2.4 | 2.1 |
| 8 | 4 | 75 | 33.7 | 30.7 | 30.6 | 29.1 | 6.0 | 2.3 | 2.5 | 2.4 |
| 8 | 5 | 75 | 60.4 | 46.0 | 50.4 | 33.8 | 5.4 | 3.2 | 2.5 | 2.5 |
| 8 | 6 | 75 | 40.8 | 31.0 | 33.7 | 30.8 | 6.7 | 3.6 | 2.8 | 2.6 |
| 8 | 7 | 75 | 24.6 | 37.0 | 28.7 | 35.0 | 5.0 | 3.3 | 2.3 | 3.0 |
| 8 | 8 | 75 | 35.5 | 36.6 | 25.7 | 32.5 | 4.9 | 4.0 | 2.5 | 1.9 |
| 8 | 9 | 75 | 35.8 | 36.9 | 25.9 | 19.0 | 4.0 | 2.6 | 1.9 | 1.5 |
| 8 | 10 | 75 | 31.1 | 34.7 | 20.3 | 33.8 | 4.1 | 3.2 | 3.0 | 2.3 |
| 8 | 11 | 75 | 36.8 | 33.6 | 19.1 | 26.5 | 4.1 | 3.0 | 5.9 | 2.0 |
| 8 | 12 | 75 | 34.10 | 30.60 | 19.00 | 10.00 | 5.20 | 2.50 | 2.00 | 1.50 |
| 8 | 13 | 75 | 43.7 | 26.6 | 17.3 | 17.7 | 3.1 | 2.0 | 2.1 | 1.4 |
| 8 | 16 | 75 | 39.0 | 34.4 | 27.9 | 24.1 | 3.5 | 2.9 | 1.2 | 1.4 |
| 8 | 17 | 75 | 43.2 | 35.4 | 31.4 | 22.7 | 3.0 | 1.6 | .0 | 2.0 |
| 8 | 20 | 75 | 52.9 | 37.3 | 30.1 | 17.2 | 3.1 | 1.9 | 1.6 | 1.4 |
| 8 | 23 | 75 | 38.9 | 36.7 | 24.7 | 18.2 | 3.5 | 1.4 | 1.2 | 1.7 |
| 8 | 26 | 75 | 60.1 | 35.7 | 34.6 | 17.3 | 2.7 | 1.3 | 2.3 | 1.4 |
| 8 | 29 | 75 | 37.1 | 33.6 | 0.0 | 27.8 | 4.5 | 2.8 | 2.1 | 1.6 |
| 9 | 1 | 75 | 39.2 | 28.2 | 30.3 | 24.3 | 2.7 | 1.2 | 1.2 | 1.1 |
| 9 | 4 | 75 | 72.6 | 34.7 | 30.1 | 24.2 | 2.8 | 1.4 | 1.4 | 1.1 |
| 9 | 7 | 75 | 12.5 | 33.6 | 29.5 | 32.8 | 5.6 | 1.4 | 4.4 | 1.4 |
| 9 | 10 | 75 | 69.3 | 40.7 | 39.0 | 27.0 | 10.4 | 2.1 | 5.0 | 1.2 |
| 9 | 13 | 75 | 76.5 | 43.8 | 44.5 | 29.9 | 18.2 | >7.5 | 2.0 | 1.0 |
| 9 | 16 | 75 | 56.0 | 35.9 | 41.1 | 35.8 | 16.6 | 4.7 | 3.2 | 1.0 |
| 9 | 19 | 75 | 79.5 | 26.9 | 31.3 | 35.3 | 20.6 | 3.3 | 6.9 | 2.0 |
| 9 | 22 | 75 | 337.6 | 33.0 | 39.5 | 33.4 | 29.3 | 2.9 | 2.3 | 1.3 |
| 9 | 25 | 75 | 77.6 | 32.1 | 30.5 | 29.6 | 24.1 | 1.0 | 2.0 | 1.4 |
| 9 | 28 | 75 | 104.2 | 41.5 | 35.9 | 33.7 | 25.3 | 5.1 | 2.7 | 1.7 |
| 10 | 1 | 75 | 32.7 | 27.4 | 34.5 | 34.9 | 23.9 | 6.2 | 2.7 | 3.3 |
| 10 | 4 | 75 | 53.6 | 36.6 | 35.0 | 30.4 | 28.5 | 5.2 | 2.9 | 1.5 |
| 10 | 7 | 75 | 36.5 | 41.5 | 41.7 | 33.2 | 27.0 | 4.0 | 2.9 | 1.0 |
| 10 | 10 | 75 | 203.0 | 38.1 | 44.9 | 30.1 | 22.5 | 6.9 | 2.9 | 1.5 |
| 10 | 13 | 75 | 164.8 | 33.3 | 38.9 | 33.1 | 25.6 | 4.7 | 1.9 | 1.2 |
| 10 | 16 | 75 | 313.0 | 42.1 | 41.4 | 41.4 | 33.0 | 8.3 | 2.6 | 1.7 |
| 10 | 20 | 75 | 104.5 | 37.4 | 37.8 | 40.0 | 33.7 | 5.9 | 4.0 | 1.7 |
| 10 | 21 | 75 | 62.5 | 41.0 | 41.4 | 50.5 | 33.0 | 9.0 | 3.0 | 1.9 |
| 10 | 22 | 75 | 53.3 | 35.2 | 39.9 | 39.6 | 22.3 | 5.9 | 2.8 | 1.9 |
| 10 | 23 | 75 | 72.0 | 33.1 | 37.0 | 36.1 | 24.7 | 5.5 | 2.9 | 1.1 |
| 10 | 24 | 75 | 57.1 | 28.3 | 26.6 | 32.9 | 20.7 | 4.2 | 0.5 | 1.5 |
| 10 | 25 | 75 | 85.2 | 31.3 | 42.3 | 34.2 | 26.7 | 5.1 | 3.7 | 2.3 |
| 10 | 26 | 75 | 62.7 | 31.0 | 31.8 | 31.4 | 23.1 | 4.0 | 3.2 | 1.0 |
| 10 | 27 | 75 | 63.6 | 34.6 | 35.3 | 32.4 | 22.3 | 5.8 | 6.6 | 1.9 |
| 10 | 28 | 75 | 74.0 | 27.6 | 27.8 | 35.1 | 25.4 | 3.8 | 4.0 | 3.2 |
| 10 | 29 | 75 | 39.3 | 30.1 | 30.9 | 23.4 | 23.5 | 6.1 | 2.3 | 2.0 |
| 10 | 30 | 75 | 56.0 | 31.2 | 32.7 | 31.0 | 29.9 | 6.0 | 2.4 | 1.0 |
| 10 | 31 | 75 | 33.5 | 27.2 | 31.7 | 25.5 | 20.1 | 8.1 | 2.1 | 1.9 |
| 11 | 1 | 75 | 79.5 | 20.9 | 30.2 | 30.6 | 30.9 | 9.7 | 3.2 | 2.0 |
| 11 | 2 | 75 | 41.9 | 31.3 | 29.7 | 29.8 | 31.9 | 13.1 | 3.5 | 2.1 |
| 11 | 3 | 75 | 82.0 | 43.0 | 33.2 | 20.0 | 40.2 | 10.6 | 3.5 | 2.2 |
| 11 | 4 | 75 | 139.0 | 34.3 | 36.1 | 33.5 | 33.3 | 13.1 | 3.7 | 2.3 |
| 11 | 5 | 75 | 65.3 | 33.5 | 44.4 | 42.8 | 20.8 | 14.1 | 4.6 | 5.5 |
| 11 | 6 | 75 | 94.9 | 32.4 | 29.8 | 27.5 | 36.0 | 16.5 | 4.2 | 2.3 |
| 11 | 7 | 75 | 33.2 | 24.7 | 26.3 | 34.3 | 20.8 | 26.4 | 4.2 | 2.4 |
| 11 | 8 | 75 | 50.0 | 31.0 | 28.7 | 27.3 | 22.7 | 10.2 | 3.9 | 2.3 |
| 11 | 9 | 75 | 62.2 | 33.8 | 26.3 | 26.9 | 31.4 | 11.2 | 3.8 | 2.4 |
| 11 | 10 | 75 | 99.1 | 39.5 | 28.3 | 29.6 | 31.9 | 10.5 | 5.7 | 2.7 |
| 11 | 11 | 75 | 63.8 | 33.4 | 23.3 | 31.2 | 20.3 | 12.2 | 9.2 | 3.0 |
| 11 | 12 | 75 | 57.5 | 22.9 | 23.5 | 30.2 | 25.9 | 22.1 | 5.5 | 3.0 |
| 11 | 13 | 75 | 64.2 | 20.3 | 28.7 | 25.2 | 33.6 | 23.4 | 5.9 | 3.3 |
| 11 | 14 | 75 | 75.5 | 27.9 | 20.1 | 27.5 | 25.5 | 24.4 | 9.5 | 3.0 |
| 11 | 15 | 75 | 65.9 | 22.5 | 21.0 | 28.6 | 25.3 | 25.9 | 7.1 | 3.4 |
| 11 | 16 | 75 | 103.9 | 26.4 | 22.6 | 22.0 | 20.0 | 16.5 | 6.5 | 2.0 |
| 11 | 17 | 75 | 108.7 | 26.5 | 25.6 | 26.2 | 21.2 | 16.2 | 6.1 | 3.1 |
| 11 | 18 | 75 | 70.7 | 29.1 | 27.0 | 30.6 | 14.0 | 14.0 | 3.6 | 2.9 |
| 11 | 19 | 75 | 115.0 | 31.9 | 23.3 | 23.9 | 25.5 | 12.3 | 5.7 | 3.2 |
| 11 | 20 | 75 | 126.1 | 33.9 | 21.6 | 20.7 | 24.4 | 12.1 | 6.1 | 4.0 |
| 11 | 23 | 75 | 141.1 | 31.1 | 20.4 | 24.2 | 30.0 | 12.9 | 6.0 | 4.5 |
| 11 | 26 | 75 | 114.9 | 26.0 | 16.6 | 18.2 | 18.3 | 13.0 | 7.1 | 4.4 |
| 12 | 2 | 75 | 136.9 | 17.8 | 25.1 | 24.5 | 24.2 | 24.9 | 7.5 | 5.5 |
| 12 | 5 | 75 | 100.1 | 22.9 | 17.4 | 19.0 | 14.4 | 13.4 | 6.9 | 6.0 |
| 12 | 8 | 75 | 123.1 | 21.3 | 14.8 | 21.1 | 19.7 | 16.1 | 7.9 | 5.8 |
| 12 | 11 | 75 | 91.8 | 27.7 | 17.0 | 21.8 | 17.7 | 18.5 | 9.1 | 5.0 |
| 12 | 14 | 75 | 68.3 | 20.8 | 19.2 | 16.7 | 21.8 | 14.1 | 7.9 | 6.4 |
| 12 | 17 | 75 | 55.4 | 21.8 | 17.0 | 15.1 | 23.1 | 14.5 | 9.3 | 6.6 |
| 12 | 20 | 75 | 37.9C | 15.4C | 15.0C | 10.2C | 14.2C | 9.7C | 5.7C | 6.4C |
| 12 | 23 | 75 | 90.0 | 19.0 | 15.8 | 17.0 | 10.0 | 12.8 | 7.0 | 6.2 |
| 12 | 31 | 75 | 130.2 | 19.7 | 23.9 | 17.7 | 10.9 | 15.1 | 7.8 | 6.2 |
| 1 | 3 | 76 | 139.5 | 6.7 | 18.1 | 18.5 | 24.7 | 16.7 | 9.0 | 7.0 |
| 1 | 6 | 76 | 85.1 | 30.1 | 25.8 | 18.1 | 17.3 | 17.1 | 19.2 | 6.1 |
| 1 | 9 | 76 | 165.3 | >36.4 | 25.6 | 28.2 | 29.4 | 18.9 | 13.7 | 7.5 |
| 1 | 12 | 76 | 94.4 | 27.0 | 22.3 | 19.4 | 17.3 | 20.8 | 12.0 | 7.0 |
| 1 | 15 | 76 | 133.4 | 15.2 | 16.9 | 15.9 | 27.9 | 26.2 | 13.6 | 14.6 |
| 1 | 18 | 76 | 43.8 | 15.0 | 16.4 | 16.5 | 14.1 | 17.0 | 10.7 | 6.7 |
| 1 | 21 | 76 | 163.4 | 17.8 | 11.3 | 18.5 | 12.4 | 20.8 | 11.0 | 7.2 |
| 1 | 24 | 76 | 137.5 | 21.4 | 22.7 | 19.7 | 26.1 | 19.7 | 13.7 | 9.3 |
| 1 | 27 | 76 | 127.1 | 22.0 | 15.0 | 24.5 | 59.0 | 19.4 | 25.2 | >15.7 |
| 1 | 30 | 76 | 329.8 | 23.0 | 11.0 | 36.2 | 14.9 | 18.7 | 16.0 | 8.9 |

Table B-2. Soluble biochemical oxygen demand ($SBOD_5$) performance of the Corinne Waste Stabilization Lagoon System.

SOLUABLE BOD(5) (MG/L)

NS = NO SAMPLE, ND = NO DATA, A = POOR DATA, B = BOD4, C = BOD6

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23 | 75 | 43.8 | 5.0 | 5.2 | 6.5 | NS | 3.3 | 3.8 | 2.0 |
| 1 | 24 | 75 | 44.6 | 5.9 | NS | 6.1 | NS | 2.7 | NS | 2.5 |
| 1 | 25 | 75 | 34.9 | 3.8 | 4.6 | 4.4 | 3.3 | NS | 3.0 | 2.2 |
| 1 | 26 | 75 | 38.6 | 5.1 | 4.5 | 4.5 | 3.7 | 3.1 | 3.2 | 2.0 |
| 1 | 27 | 75 | 28.2 | 7.3 | 6.0 | 5.0 | 3.0 | 3.2 | 3.8 | 4.7 |
| 1 | 28 | 75 | 35.2 | NS | 5.4 | NS | 4.3 | 0.6 | 2.9 | 2.5 |
| 1 | 29 | 75 | 39.0 | 6.4 | 5.4 | 4.8 | NS | 3.6 | 3.3 | 3.3 |
| 1 | 30 | 75 | 39.8 | 4.7 | 5.2 | 4.0 | 3.7 | 3.3 | 3.0 | NS |
| 1 | 31 | 75 | 57.4 | >9.6 | 7.2 | 4.7 | 3.1 | 4.8 | 3.4 | 2.0 |
| 2 | 1 | 75 | 65.6 | 6.7 | 5.7 | 4.5 | 4.5 | 4.3 | 3.6 | 2.8 |
| 2 | 2 | 75 | 36.2 | 7.1 | 7.7 | 4.8 | 3.8 | 4.7 | 5.8 | 1.9 |
| 2 | 3 | 75 | 29.1 | 5.4 | 2.4 | 2.9 | 4.1 | 2.8 | 4.4 | 1.8 |
| 2 | 4 | 75 | 78.0A | 4.9 | 4.1 | 4.1 | 3.2 | 4.6 | 2.6 | 2.0 |
| 2 | 5 | 75 | 44.0 | 3.6 | 4.1 | 2.3 | 4.0 | 3.9 | 3.4 | 1.9 |
| 2 | 6 | 75 | 66.0 | 4.6 | 6.5 | 3.6 | 3.6 | 3.7 | 4.3 | 1.7 |
| 2 | 7 | 75 | 126.7 | 15.0A | 13.4A | 5.6 | 9.0A | 8.0A | 20.7 | 7.3 |
| 2 | 8 | 75 | 26.3 | 6.4 | 6.7 | 8.1 | 4.2 | 3.8 | 4.9 | 6.4 |
| 2 | 9 | 75 | 34.0 | 6.8 | 6.2 | 5.1 | 5.2 | 5.2 | 2.4 | 3.4 |
| 2 | 10 | 75 | 33.2 | 5.8 | 5.1 | 5.7 | 7.6 | 3.7 | 5.3 | [illegible] |
| 2 | 11 | 75 | 15.3 | 7.2 | 5.0 | 4.6 | 4.9 | 3.8 | 4.2 | [illegible] |
| 2 | 12 | 75 | 12.5 | 7.0 | 5.2 | 4.2 | 4.1 | 3.5 | 5.3 | 4.1 |
| 2 | 13 | 75 | 8.8 | 5.3 | 5.4 | 4.8 | 4.0 | 5.9 | 4.5 | 4.0 |
| 2 | 14 | 75 | 23.8 | 5.5 | 5.1 | 4.1 | 3.1 | 2.2 | 5.4 | 2.5 |
| 2 | 15 | 75 | 10.5 | 4.0 | 3.8 | 4.4 | 3.3 | 2.4 | 3.3 | 2.8 |
| 2 | 16 | 75 | 14.2 | 2.7 | 3.4 | 5.5 | 4.2 | 3.0 | 3.5 | 3.3 |
| 2 | 17 | 75 | 15.4 | 4.7 | 5.2 | 4.4 | 4.1 | 4.4 | 3.6 | 3.9 |
| 2 | 18 | 75 | 10.1 | 4.7 | 4.7 | 4.0 | 4.2 | 3.9 | 3.0 | 2.8 |
| 2 | 19 | 75 | 12.5 | 4.8 | 4.9 | 4.1 | 3.1 | 3.2 | 3.2 | 2.5 |
| 2 | 20 | 75 | 12.1 | 2.3 | 3.2 | 2.8 | 3.1 | 3.3 | 2.8 | 1.8 |
| 2 | 21 | 75 | 13.9 | 3.9 | 3.2 | 2.7 | 6.0 | 3.8 | 1.8 | 2.7 |
| 2 | 22 | 75 | 14.1 | 3.2 | 4.3 | 3.3 | 4.0 | 5.1 | 3.7 | 2.7 |
| 2 | 27 | 75 | 12.1 | 3.5 | 3.8 | 2.7 | 4.0 | 4.2 | 4.3 | 5.0 |
| 2 | 28 | 75 | 10.8 | 5.6 | 3.3 | 3.8 | 3.6 | 4.6 | 3.8 | 4.3 |
| 3 | 4 | 75 | 10.9 | 4.4 | 2.8 | 2.6 | 2.9 | 2.6 | 2.8 | 2.9 |
| 3 | 6 | 75 | 12.4 | 5.5 | 4.5 | 4.4 | 4.7 | 2.7 | 4.7 | 5.6 |
| 3 | 8 | 75 | 12.1 | 5.8 | 6.1 | 4.7 | 4.1 | 3.5 | 3.4 | 7.7 |
| 3 | 12 | 75 | 54.1 | 8.2 | 7.0 | 5.9 | 7.0 | >11.3 | 4.5 | >10.7 |
| 3 | 15 | 75 | 20.3 | 29.9 | 9.5 | 10.3 | 10.6 | 6.5 | 6.0 | 6.5 |
| 3 | 18 | 75 | 18.0 | 13.5 | 8.8 | 7.2 | 5.9 | 7.0 | 6.9 | 5.7 |
| 3 | 21 | 75 | 12.5 | 7.9 | 5.9 | 7.6 | 6.1 | 5.8 | 8.9 | 5.1 |
| 3 | 24 | 75 | 20.4 | 13.3 | 8.7 | 8.6 | 7.5 | 6.0 | 6.8 | 5.1 |
| 3 | 28 | 75 | 11.8 | 7.7 | 7.1 | 6.2 | 6.6 | 5.9 | 5.8 | 4.8 |
| 3 | 31 | 75 | 11.7 | 7.7 | 6.5 | 7.9 | 6.2 | 5.1 | 4.9 | 3.5 |
| 4 | 2 | 75 | 19.0 | 7.4 | 8.0 | 10.6 | 8.7 | 7.6 | 8.5 | 6.2 |
| 4 | 5 | 75 | 6.0 | 4.1 | 4.8 | 4.7 | 4.2 | 4.7 | 7.7 | 4.0 |
| 4 | 8 | 75 | 34.8 | 6.2 | 5.0 | 4.2 | 4.8 | 4.8 | 6.7 | 4.8 |
| 4 | 11 | 75 | 20.0 | 5.2 | 4.3 | 7.2 | 4.7 | 6.0 | 5.5 | 3.8 |
| 4 | 14 | 75 | 22.0 | 7.9 | 6.7 | 6.6 | 3.7 | 3.8 | 4.8 | 3.6 |
| 4 | 15 | 75 | 19.2 | 6.9 | 7.1 | 6.1 | 4.6 | 3.8 | 4.0 | 4.5 |
| 4 | 16 | 75 | 24.8 | 8.3 | 9.3 | 9.4 | 8.5 | 8.0 | 6.8 | 7.3 |
| 4 | 17 | 75 | 26.8 | 8.3 | 7.8 | 9.5 | 8.6 | 7.2 | 6.1 | 6.6 |
| 4 | 18 | 75 | 23.4 | 9.1 | 7.7 | 6.7 | 5.9 | 6.5 | 6.8 | 4.6 |
| 4 | 19 | 75 | 9.7 | 6.3 | 6.2 | 5.3 | 5.2 | 5.9 | 4.1 | 3.3 |
| 4 | 20 | 75 | 12.5 | 5.1 | 4.7 | 4.7 | 4.8 | 4.9 | 4.4 | 3.9 |
| 4 | 21 | 75 | 11.6 | 6.1 | 6.9 | 4.9 | 4.8 | 3.9 | 4.8 | 4.9 |
| 4 | 22 | 75 | 9.6 | 7.2 | 4.9 | 5.0 | 4.1 | 2.9 | 4.9 | 2.8 |
| 4 | 23 | 75 | 15.2 | 6.2 | 6.1 | 5.8 | 5.0 | 3.6 | 3.2 | 4.4 |
| 4 | 24 | 75 | 8.8 | 5.9 | 5.3 | 3.7 | 5.6 | 2.6 | 2.5 | 2.9 |
| 4 | 25 | 75 | 10.5 | 4.7 | 4.8 | 4.3 | 3.4 | 2.4 | 2.6 | 3.3 |
| 4 | 26 | 75 | 10.0 | 4.6 | 4.3 | 4.1 | 3.7 | 2.8 | 3.2 | 3.3 |
| 4 | 27 | 75 | 11.3 | 3.8 | 3.9 | 4.1 | 4.2 | 3.9 | 3.5 | 4.0 |
| 4 | 28 | 75 | 12.8 | 4.5 | 3.4 | 4.3 | 3.6 | 3.8 | 3.1 | 3.2 |
| 4 | 29 | 75 | 12.2 | 4.1 | 3.6 | 4.0 | 3.7 | 4.3 | 3.0 | 3.1 |
| 4 | 30 | 75 | 12.3 | 3.7 | 4.4 | 4.3 | 3.9 | 3.5 | 3.5 | 3.3 |
| 5 | 1 | 75 | 9.8 | 5.8 | 4.9 | 3.4 | 3.4 | 3.5 | 3.1 | 2.7 |
| 5 | 2 | 75 | 12.1 | 6.5 | 4.6 | 5.7 | 4.1 | 4.2 | 3.6 | 3.5 |
| 5 | 3 | 75 | 13.2 | 4.7 | 6.0 | 3.1 | 3.6 | 3.6 | 3.7 | 3.9 |
| 5 | 4 | 75 | 14.0 | 4.4 | 2.6 | 3.9 | 3.6 | 3.5 | 3.4 | 3.7 |
| 5 | 5 | 75 | 13.2 | 4.4 | 6.8 | 3.4 | 3.3 | 3.3 | 2.9 | 2.5 |
| 5 | 6 | 75 | 8.8 | 4.0 | 3.8 | 4.1 | 3.4 | 3.1 | 3.5 | 3.4 |
| 5 | 7 | 75 | 10.3 | 5.1 | 3.8 | 4.3 | 3.7 | 3.3 | 3.6 | 3.3 |
| 5 | 8 | 75 | 10.0 | 4.6 | 4.2 | 4.4 | 4.2 | 3.3 | 3.3 | 3.5 |
| 5 | 9 | 75 | 10.3 | 5.8 | 4.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.6 |
| 5 | 10 | 75 | 10.1 | 6.1 | 3.1 | 4.9 | 3.3 | 3.8 | 3.5 | 3.5 |
| 5 | 11 | 75 | 9.5 | 8.7 | 6.6 | 3.2 | 4.0 | 3.2 | 4.1 | 3.8 |
| 5 | 12 | 75 | 13.3 | 4.9 | 5.5 | 3.8 | 3.4 | 4.3 | 4.1 | 3.9 |
| 5 | 13 | 75 | 13.7 | 4.7 | 4.4 | 3.9 | 3.8 | 3.9 | 3.6 | 3.0 |
| 5 | 16 | 75 | 20.2 | 2.8 | 2.7 | 2.5 | 2.2 | 2.6 | 3.2 | 3.8 |
| 5 | 19 | 75 | 26.8 | 9.0 | 6.0 | 5.7 | 5.1 | 4.9 | 5.0 | 4.5 |
| 5 | 22 | 75 | 29.0 | 6.1 | 4.7 | 4.4 | 3.3 | 3.3 | 3.5 | 4.1 |
| 5 | 25 | 75 | 30.0 | 5.0 | 3.5 | 5.0 | 3.8 | 3.6 | 4.5 | 4.1 |
| 5 | 28 | 75 | 18.4 | 4.4 | 3.5 | 4.7 | 4.4 | 4.1 | 4.0 | 3.7 |
| 5 | 31 | 75 | 8.9 | 3.2 | 2.5 | 5.4 | 5.1 | 1.6 | 3.3 | 2.8 |
| 6 | 3 | 75 | 14.6 | 7.6 | 3.3 | 5.3 | 5.9 | 4.2 | 3.9 | 4.0 |
| 6 | 6 | 75 | 10.7 | 8.1 | 4.9 | 5.7 | 6.4 | 5.6 | 5.3 | 3.8 |
| 6 | 9 | 75 | 33.7 | 6.8 | 5.7 | 5.5 | 5.4 | 5.3 | 4.7 | 2.9 |
| 6 | 12 | 75 | 19.8 | 7.1 | 5.1 | 6.7 | 7.0 | 8.2 | 5.5 | 5.6 |
| 6 | 15 | 75 | 8.7 | 5.6 | 6.6 | 6.2 | 6.5 | 5.8 | 5.9 | 6.1 |
| 6 | 18 | 75 | 21.9 | 7.4 | 7.0 | 6.9 | 6.3 | 6.0 | 6.9 | 5.3 |
| 6 | 21 | 75 | 7.3 | 5.1 | 5.4 | 7.2 | 7.4 | 5.1 | 7.0 | 4.7 |
| 6 | 24 | 75 | 11.8 | 4.0 | 3.9 | 7.9 | 7.3 | 8.0 | 7.2 | 5.2 |
| 6 | 27 | 75 | 35.8 | 5.7 | 2.7 | 8.2 | 7.0 | 6.4 | 6.1 | 5.2 |
| 6 | 30 | 75 | 6.3 | 2.8 | 2.6 | 4.7 | 3.1 | 4.6 | 4.6 | 3.2 |
| 7 | 3 | 75 | 14.9 | 2.2 | 2.7 | 3.2 | 3.0 | 2.7 | 4.0 | 3.1 |
| 7 | 6 | 75 | 3.0 | 1.9 | 2.3 | 3.5 | 2.6 | 2.9 | 4.9 | 3.5 |
| 7 | 9 | 75 | 10.1 | 3.4 | 3.8 | 3.0 | 3.0 | 4.8 | 4.7 | 4.0 |
| 7 | 12 | 75 | 3.1 | 4.7 | 4.3 | 3.5 | 2.6 | 2.2 | 4.4 | 2.6 |
| 7 | 15 | 75 | 6.7 | 4.6 | 4.2 | 4.8 | 3.2 | 4.0 | 3.7 | 3.7 |
| 7 | 16 | 75 | 6.3 | 4.0 | 3.7 | 4.1 | 2.3 | 3.9 | 3.4 | 2.9 |
| 7 | 17 | 75 | 6.8 | 4.9 | 3.6 | 3.3 | 2.9 | 2.8 | 3.4 | 2.4 |
| 7 | 18 | 75 | 8.6 | 4.3 | 5.0 | 5.0 | 2.7 | 4.2 | 4.0 | 1.5 |

Table B-2. (Continued).

SOLUVABLE BOD(5) (MG/L)

NS = NO SAMPLE, ND = NO DATA, A = POOR DATA, B = BOD4, C = BOD6

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 19 | 75 | 4.4 | 3.3 | 2.8 | 3.2 | 2.6 | 2.9 | 3.0 | 1.9 |
| 7 | 20 | 75 | 6.5 | 3.3 | 2.9 | 4.4 | 1.9 | 2.5 | 3.5 | 3.3 |
| 7 | 21 | 75 | 6.8 | 5.4 | 3.5 | 3.2 | 3.1 | 3.8 | 3.2 | 3.5 |
| 7 | 22 | 75 | 5.4 | 4.5 | 2.7 | 3.6 | 2.7 | 2.1 | 2.8 | 2.2 |
| 7 | 23 | 75 | 10.9 | 3.9 | 2.2 | 3.5 | 1.8 | 1.5 | 2.5 | 1.8 |
| 7 | 24 | 75 | 8.4 | 4.1 | 3.9 | 1.9 | 3.3 | 2.2 | 1.4 | 1.8 |
| 7 | 25 | 75 | 12.9 | 5.6 | 4.1 | 6.0 | 5.1 | 3.6 | 2.5 | 5.0 |
| 7 | 26 | 75 | 9.7 | 6.0 | ND | ND | ND | ND | 5.4 | 2.4 |
| 7 | 27 | 75 | 13.9 | 8.2 | 4.8 | 6.7 | 4.8 | 5.7 | 2.8 | 3.0 |
| 7 | 28 | 75 | 9.9 | 8.3 | 4.8 | 7.0 | 5.5 | 3.1 | 1.8 | 2.3 |
| 7 | 29 | 75 | 8.4 | 5.4 | 3.8 | 6.1 | 2.9 | 1.6 | 1.6 | 2.5 |
| 7 | 30 | 75 | 10.6 | 8.6 | 5.8 | 6.6 | 3.3 | 2.0 | 2.6 | 2.6 |
| 7 | 31 | 75 | 19.6 | 5.6 | 5.4 | 4.8 | 2.8 | 1.3 | 2.2 | 1.9 |
| 8 | 1 | 75 | 10.3 | 6.4 | 6.2 | 6.2 | 3.1 | 2.7 | 2.7 | 2.6 |
| 8 | 2 | 75 | 11.3 | 5.4 | 4.7 | 6.0 | 3.8 | 2.3 | 1.9 | 2.2 |
| 8 | 3 | 75 | 9.7 | 5.2 | 4.8 | 3.7 | 3.0 | 2.7 | 0.9 | 1.3 |
| 8 | 4 | 75 | 8.8 | 5.3 | 4.7 | 6.7 | 3.7 | 2.1 | 2.1 | 2.0 |
| 8 | 5 | 75 | 8.9 | 5.8 | 6.0 | 5.3 | 2.9 | 2.1 | 1.9 | 2.0 |
| 8 | 6 | 75 | 23.2 | 5.6 | 6.5 | 6.7 | 3.9 | 3.0 | 2.3 | 2.4 |
| 8 | 7 | 75 | 7.5 | 4.8 | 4.8 | 4.6 | 3.1 | 2.6 | 2.2 | 2.2 |
| 8 | 8 | 75 | 11.9 | 6.8 | 5.2 | 4.1 | 3.0 | 2.2 | 2.4 | 1.8 |
| 8 | 9 | 75 | 7.4 | 3.7 | 4.3 | 3.2 | 2.5 | 1.6 | 1.4 | 1.8 |
| 8 | 10 | 75 | 9.0 | 4.7 | 4.2 | 4.6 | 2.7 | 2.8 | 2.0 | ND |
| 8 | 11 | 75 | 6.1 | 4.5 | 4.5 | 3.7 | 3.0 | 2.4 | 1.4 | 1.2 |
| 8 | 12 | 75 | 11.40 | 4.70 | 3.00 | 4.00 | 2.30 | 1.50 | 1.10 | 0.70 |
| 8 | 13 | 75 | 6.8 | 4.4 | 2.8 | 3.0 | 2.4 | 2.0 | 1.6 | 2.7 |
| 8 | 14 | 75 | 8.0 | 5.0 | 4.8 | 4.1 | 2.4 | 2.4 | 2.3 | 0.8 |
| 8 | 17 | 75 | 10.7 | 3.4 | 4.9 | 4.3 | 2.1 | 1.4 | 1.8 | 0.9 |
| 8 | 20 | 75 | 16.7 | 3.1 | 4.4 | 3.0 | 2.0 | 1.1 | 0.9 | 0.7 |
| 8 | 23 | 75 | 18.2 | 2.9 | 3.0 | 3.7 | 2.1 | 1.0 | 1.0 | 0.9 |
| 8 | 26 | 75 | 16.4 | 4.4 | 2.7 | 4.2 | 1.9 | 1.0 | 1.5 | 1.3 |
| 8 | 29 | 75 | 11.4 | 4.7 | 3.9 | 5.0 | 3.6 | 1.4 | 1.1 | 1.6 |
| 9 | 1 | 75 | 21.8 | 3.9 | 3.3 | 2.8 | 2.0 | 0.9 | 1.0 | 0.7 |
| 9 | 4 | 75 | 19.2 | 4.5 | 3.4 | 4.1 | 2.1 | 1.1 | 1.1 | 1.3 |
| 9 | 7 | 75 | 3.4 | 3.9 | 5.4 | 4.1 | 2.5 | 1.1 | 1.4 | 1.1 |
| 9 | 10 | 75 | 25.4 | 3.4 | 5.2 | 4.7 | 3.8 | 1.8 | 2.9 | 0.9 |
| 9 | 13 | 75 | 31.3 | 6.4 | ND | 4.0 | 3.9 | 2.8 | 1.0 | 1.0 |
| 9 | 16 | 75 | 25.6 | 4.7 | 4.5 | 4.8 | 4.8 | 1.7 | 2.0 | 1.3 |
| 9 | 19 | 75 | 35.4 | 5.6 | 6.7 | 5.7 | 7.6 | 1.8 | 2.0 | 1.1 |
| 9 | 22 | 75 | 41.4 | 4.5 | 5.8 | 5.9 | 5.1 | 1.5 | 1.6 | 1.1 |
| 9 | 25 | 75 | 27.6 | 3.7 | 3.8 | 4.6 | 4.3 | 2.8 | 1.3 | 1.1 |
| 9 | 28 | 75 | 20.6 | 4.4 | 3.4 | 6.1 | 5.4 | 4.4 | 2.2 | 2.3 |
| 10 | 1 | 75 | 15.9 | 3.6 | 4.1 | 5.8 | 5.6 | 3.4 | 1.9 | 1.1 |
| 10 | 4 | 75 | 10.3 | 3.6 | 3.0 | 5.0 | 6.1 | 3.7 | 2.1 | 1.5 |
| 10 | 7 | 75 | 11.9 | 4.2 | 3.1 | 5.1 | 5.2 | 2.6 | 1.8 | 1.8 |
| 10 | 10 | 75 | 28.9 | 4.3 | 3.3 | 3.6 | 4.8 | 3.2 | 2.2 | 1.2 |
| 10 | 13 | 75 | 20.8 | 4.8 | 3.6 | 3.8 | 4.1 | 3.0 | 1.7 | 1.4 |
| 10 | 16 | 75 | 40.8 | 4.6 | 4.5 | 5.2 | 5.1 | 4.3 | 2.5 | 1.3 |
| 10 | 20 | 75 | 35.2 | 5.8 | 5.3 | 5.3 | 7.7 | 3.8 | 2.5 | 1.7 |
| 10 | 21 | 75 | 23.8 | 5.5 | 5.4 | 6.0 | 5.5 | 3.8 | 2.6 | 1.4 |
| 10 | 22 | 75 | 22.0 | 4.2 | 4.7 | 6.5 | 5.1 | 2.3 | 2.5 | 1.7 |
| 10 | 23 | 75 | 21.3 | 4.1 | 9.9 | 4.4 | 4.5 | 2.8 | 2.0 | 1.7 |
| 10 | 24 | 75 | 27.6 | 3.6 | 3.8 | 3.6 | 5.9 | 2.8 | 2.4 | 1.5 |
| 10 | 25 | 75 | 28.8 | 4.5 | 4.0 | 5.1 | 4.6 | 3.2 | 3.0 | 1.6 |
| 10 | 26 | 75 | 27.0 | 4.1 | 3.6 | 4.3 | 3.7 | 3.4 | 3.5 | 1.4 |
| 10 | 27 | 75 | 18.1 | 4.5 | 3.8 | 4.3 | 4.3 | 2.2 | 2.4 | 1.4 |
| 10 | 28 | 75 | 15.4 | 4.6 | 4.4 | 4.7 | 3.8 | 2.1 | 2.3 | 1.6 |
| 10 | 29 | 75 | 12.8 | 3.6 | 3.6 | 5.1 | 2.4 | 2.4 | 2.0 | 1.5 |
| 10 | 30 | 75 | 18.2 | 4.7 | 3.2 | 4.3 | 5.2 | 3.6 | 2.0 | 1.6 |
| 10 | 31 | 75 | 12.4 | 4.0 | 2.9 | 3.5 | 3.5 | 2.8 | 1.6 | 1.4 |
| 11 | 1 | 75 | 18.1 | 4.7 | 3.9 | 4.5 | 4.0 | 3.0 | 2.4 | 1.7 |
| 11 | 2 | 75 | 21.0 | 4.7 | 3.7 | 4.8 | 4.3 | 3.8 | 3.2 | 1.5 |
| 11 | 3 | 75 | 19.3 | 4.7 | 3.7 | 3.0 | 4.2 | 2.0 | 2.6 | 1.6 |
| 11 | 4 | 75 | 24.0 | 4.8 | 3.9 | 4.4 | 4.3 | 3.4 | 2.1 | 1.8 |
| 11 | 5 | 75 | 16.5 | 4.7 | 4.0 | 5.7 | 4.3 | 4.2 | 3.0 | 2.4 |
| 11 | 6 | 75 | 17.8 | 5.0 | 4.0 | 5.4 | 4.8 | 3.3 | 2.6 | 2.1 |
| 11 | 7 | 75 | 17.5 | 6.4 | 3.7 | 5.0 | 4.3 | 3.5 | 2.8 | 1.0 |
| 11 | 8 | 75 | 15.2 | 4.9 | 3.4 | 4.6 | 4.0 | 3.7 | 3.1 | 2.2 |
| 11 | 9 | 75 | 19.2 | 5.0 | 3.4 | 4.5 | 3.5 | 2.9 | 2.0 | 2.0 |
| 11 | 10 | 75 | 21.1 | 5.6 | 5.3 | 4.9 | 4.1 | 3.4 | 3.1 | 1.8 |
| 11 | 11 | 75 | 20.2 | 4.9 | 4.0 | 4.2 | 4.3 | 3.0 | ND | 2.0 |
| 11 | 12 | 75 | 18.0 | 4.8 | 4.7 | 5.0 | 4.4 | 3.1 | 2.1 | 2.3 |
| 11 | 13 | 75 | 34.2 | 5.6 | 5.2 | 4.5 | 2.9 | 3.5 | 2.4 | 2.7 |
| 11 | 14 | 75 | 22.9 | 5.5 | 2.8 | 5.4 | 4.3 | 3.2 | 3.2 | 1.9 |
| 11 | 15 | 75 | 20.1 | 4.8 | 3.3 | 4.5 | 3.5 | 2.9 | 3.9 | 2.4 |
| 11 | 16 | 75 | 30.1 | 5.5 | 3.2 | 4.7 | 4.2 | 3.0 | 2.4 | 1.7 |
| 11 | 17 | 75 | 34.4 | 4.9 | 4.2 | 5.3 | 4.0 | 3.5 | 3.2 | 1.3 |
| 11 | 18 | 75 | 20.1 | 5.2 | 3.4 | 4.7 | 4.3 | 3.0 | 2.3 | 2.0 |
| 11 | 19 | 75 | 29.2 | 6.0 | 4.9 | 4.0 | 3.3 | 3.3 | 2.2 | 2.2 |
| 11 | 20 | 75 | 20.6 | 7.2 | 6.4 | 4.6 | 3.8 | 5.0 | 3.2 | 2.1 |
| 11 | 23 | 75 | 44.9 | 5.6 | 3.9 | 4.8 | 4.4 | 3.1 | 3.1 | 2.1 |
| 11 | 26 | 75 | 40.8 | 5.1 | 3.5 | 4.0 | 3.5 | 2.9 | 2.7 | 2.4 |
| 12 | 2 | 75 | 33.0 | 5.7 | 3.7 | 3.7 | 4.6 | 4.2 | 3.2 | 2.6 |
| 12 | 5 | 75 | 31.1 | 4.6 | 4.4 | 3.9 | 3.4 | 3.8 | 3.4 | 2.8 |
| 12 | 8 | 75 | 26.8 | 5.8 | 3.3 | 2.9 | 3.0 | 3.8 | 3.0 | 2.2 |
| 12 | 11 | 75 | 37.3 | 6.4 | 4.1 | 3.7 | 2.7 | 3.3 | 2.5 | 3.1 |
| 12 | 14 | 75 | 24.5 | 6.3 | 3.9 | 4.4 | 3.5 | 3.4 | 3.4 | 2.7 |
| 12 | 17 | 75 | 23.5 | 6.2 | 3.5 | 3.9 | 3.5 | 3.1 | 3.2 | 2.1 |
| 12 | 20 | 75 | 12.9C | 8.2C | 5.1C | 5.0C | 4.0C | 3.6C | 4.2C | 3.3C |
| 12 | 23 | 75 | 20.9 | 7.8 | 4.7 | 4.4 | 3.4 | 3.0 | 2.8 | 3.1 |
| 12 | 31 | 75 | 60.9 | 8.2 | 4.6 | 4.1 | <3.6 | 3.5 | 2.7 | 3.4 |
| 1 | 3 | 76 | 61.7 | 9.4 | 4.7 | 5.0 | 4.6 | 3.6 | 2.8 | 3.3 |
| 1 | 6 | 76 | 29.8 | 8.8 | 5.8 | 4.5 | 3.3 | 3.9 | 4.1 | 3.0 |
| 1 | 9 | 76 | 37.0 | 13.6 | 5.6 | 5.6 | 6.3 | 4.0 | 3.0 | 2.9 |
| 1 | 12 | 76 | 33.7 | 8.8 | 4.4 | 3.9 | 4.1 | 3.7 | 2.8 | 2.5 |
| 1 | 15 | 76 | 50.3 | 8.5 | 4.9 | 4.8 | 4.1 | 3.6 | 3.8 | 3.3 |
| 1 | 18 | 76 | 42.2 | 6.1 | 4.1 | 5.0 | 3.6 | 3.4 | 3.2 | 2.5 |
| 1 | 21 | 76 | 53.1 | 7.8 | 6.1 | 5.1 | 4.0 | 3.6 | 3.0 | 2.7 |
| 1 | 24 | 76 | 62.8 | 9.8 | 5.2 | 5.9 | 3.6 | 3.9 | 3.1 | 4.5 |
| 1 | 27 | 76 | 99.5 | 12.4 | 5.7 | 4.4 | 3.7 | 3.7 | 3.4 | 5.1 |
| 1 | 30 | 76 | 51.3 | 9.6 | 8.4 | 6.4 | 3.8 | 3.3 | 2.5 | 2.8 |

Table B-3. Suspended solids performance of the Corinne Waste Stabilization Lagoon System.

SUSPENDED SOLIDS (MG/L)

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23 | 75 | ND | 45.6 | 39.5 | 45.2 | NS | 4.8 | 10.3 | 5.7 |
| 1 | 24 | 75 | 44.0 | 54.6 | NS | 42.3 | NS | 8.7 | NS | 6.4 |
| 1 | 25 | 75 | 120.0 | 52.0 | 42.4 | 45.1 | 22.0 | NS | 12.5 | 6.2 |
| 1 | 26 | 75 | 108.0 | 45.3 | 33.5 | 39.0 | 22.0 | 9.7 | 10.7 | 32.3 |
| 1 | 27 | 75 | 231.9 | 46.0 | 32.5 | 40.0 | 17.6 | 11.0 | 18.0 | 9.8 |
| 1 | 28 | 75 | 24.7 | NS | 20.7 | NS | 18.4 | 6.7 | 10.5 | 7.5 |
| 1 | 29 | 75 | 80.0 | 55.0 | 28.6 | 30.0 | NS | 8.0 | 15.3 | 7.5 |
| 1 | 30 | 75 | 127.6 | 62.0 | 30.0 | 36.0 | 26.0 | 16.2 | 26.4 | NS |
| 1 | 31 | 75 | 87.6 | 56.4 | 23.5 | 30.5 | 26.7 | 13.3 | 16.7 | 6.0 |
| 2 | 1 | 75 | 57.5 | 58.0 | 27.3 | 45.3 | 39.5 | 20.3 | 19.6 | 11.1 |
| 2 | 2 | 75 | 80.6 | 67.0 | 44.0 | 59.7 | 43.0 | 21.7 | 25.1 | 11.0 |
| 2 | 3 | 75 | 115.9 | 73.0 | 50.0 | 58.8 | 63.6 | 18.4 | 20.0 | 11.7 |
| 2 | 4 | 75 | 54.6 | 67.8 | 50.6 | 40.6 | 45.4 | ND | 9.6 | 8.7 |
| 2 | 5 | 75 | 133.0 | 60.0 | 67.3 | 46.0 | 56.5 | 28.5 | 15.4 | 14.3 |
| 2 | 6 | 75 | 74.0 | 76.9 | 83.6 | 66.2 | 55.2 | 30.1 | 26.0 | 9.5 |
| 2 | 7 | 75 | 118.4 | 61.0 | 58.7 | 65.1 | 70.7 | 35.9 | 18.0 | 9.2 |
| 2 | 8 | 75 | 127.9 | 67.3 | 37.1 | 71.2 | 48.9 | 39.3 | 27.5 | 10.4 |
| 2 | 9 | 75 | 92.0 | 55.7 | 45.7 | 53.6 | 50.8 | 29.2 | 17.0 | 10.2 |
| 2 | 10 | 75 | 110.0 | 69.2 | 32.8 | 54.6 | 62.0 | 27.5 | 23.1 | 14.0 |
| 2 | 11 | 75 | 27.1 | 66.9 | 37.7 | 48.1 | 21.5 | 27.0 | 14.0 | 21.1 |
| 2 | 12 | 75 | 47.2 | 55.7 | 37.0 | 55.2 | 61.2 | 30.0 | 13.7 | 17.0 |
| 2 | 13 | 75 | 51.8 | 69.0 | 74.5 | 33.1 | 39.4 | 30.0 | 18.9 | 8.0 |
| 2 | 14 | 75 | 195.9 | 60.0 | 30.0 | 47.0 | 45.5 | 28.1 | 20.1 | 12.4 |
| 2 | 15 | 75 | 40.7 | 69.1 | 43.7 | 30.9 | 49.5 | 29.7 | 26.9 | 12.1 |
| 2 | 16 | 75 | 36.1 | 70.0 | 41.2 | 49.7 | 44.0 | 53.0 | 15.5 | 12.7 |
| 2 | 17 | 75 | 33.5 | 66.9 | 51.7 | 44.0 | 48.4 | 27.5 | 18.4 | 15.1 |
| 2 | 18 | 75 | 107.6 | 63.2 | 57.1 | 50.0 | 54.0 | 24.8 | 17.1 | 10.8 |
| 2 | 19 | 75 | 56.7 | 77.8 | 51.0 | 53.6 | 59.5 | 33.6 | 20.4 | 10.2 |
| 2 | 20 | 75 | 32.5 | 56.0 | 68.0 | 56.0 | 56.5 | 32.7 | 18.5 | 9.3 |
| 2 | 21 | 75 | 14.3 | 33.3 | 44.2 | 62.7 | 35.9 | 28.5 | 14.5 | 6.2 |
| 2 | 22 | 75 | 45.3 | 52.7 | 46.8 | 105.0 | 55.6 | 35.6 | 19.7 | 10.6 |
| 2 | 27 | 75 | 65.0 | 74.0 | 65.0 | 63.8 | 60.0 | 50.0 | 41.5 | 23.1 |
| 2 | 28 | 75 | 22.0 | 63.0 | 57.3 | 47.5 | 52.3 | 48.5 | 32.2 | 24.5 |
| 3 | 3 | 75 | 74.6 | 86.0 | 74.0 | 64.7 | 57.0 | 35.6 | 33.1 | 250.0 |
| 3 | 6 | 75 | 74.0 | 89.7 | 67.0 | 64.0 | 52.0 | 7.0 | 23.0 | 19.6 |
| 3 | 9 | 75 | 35.7 | 74.4 | 103.1 | 59.0 | 56.1 | 45.4 | 27.5 | 21.2 |
| 3 | 12 | 75 | 11.9 | 74.2 | 78.7 | 63.7 | 70.0 | 56.3 | 38.5 | 20.8 |
| 3 | 15 | 75 | 144.2 | 59.8 | 37.9 | 47.2 | 61.7 | 73.9 | 46.6 | 20.2 |
| 3 | 18 | 75 | 49.3 | 39.0 | 40.0 | 50.0 | 58.2 | 56.0 | 48.0 | 32.3 |
| 3 | 21 | 75 | 40.5 | 32.6 | 34.8 | 38.3 | 46.0 | 63.0 | 48.2 | 51.3 |
| 3 | 24 | 75 | 25.8 | 29.3 | 34.7 | 45.0 | 55.0 | 108.1 | 51.3 | 52.0 |
| 3 | 28 | 75 | 251.4 | 31.7 | 31.0 | 66.7 | 72.0 | 101.3 | 262.9 | 94.0 |
| 3 | 31 | 75 | 52.5 | 37.8 | 31.0 | 78.0 | 53.3 | 90.0 | 436.0 | 166.7 |
| 4 | 2 | 75 | 29.8 | 30.0 | 37.2 | 50.0 | 50.4 | 93.0 | 471.4 | 193.8 |
| 4 | 5 | 75 | 22.2 | 45.7 | 62.7 | 71.4 | 90.0 | 205.3 | 394.3 | 192.3 |
| 4 | 8 | 75 | 69.4 | 55.5 | 47.6 | 80.0 | 104.7 | 238.5 | 290.0 | 217.5 |
| 4 | 11 | 75 | 27.1 | 69.0 | 49.6 | 80.0 | 129.5 | 290.5 | 217.5 | 235.6 |
| 4 | 14 | 75 | 45.0 | 66.7 | 281.1 | 101.2 | 130.7 | 182.9 | 191.1 | 242.5 |
| 4 | 15 | 75 | 60.2 | 53.0 | 60.3 | 104.0 | 116.9 | 184.4 | 137.2 | 203.1 |
| 4 | 16 | 75 | 39.0 | 79.2 | 78.7 | 100.0 | 120.0 | 164.0 | 144.4 | 225.0 |
| 4 | 17 | 75 | 77.5 | 81.0 | 72.9 | 105.7 | 134.0 | 180.0 | 110.3 | 217.6 |
| 4 | 18 | 75 | 144.0 | 89.3 | 78.9 | 105.6 | 139.4 | 176.2 | ND | 186.7 |
| 4 | 19 | 75 | 36.3 | 82.7 | 71.4 | 80.6 | 96.0 | 121.4 | 114.0 | 217.0 |
| 4 | 20 | 75 | 34.5 | 65.9 | 62.2 | 77.6 | 114.3 | 94.0 | 106.0 | 151.9 |
| 4 | 21 | 75 | 24.7 | 83.5 | 92.9 | 86.4 | 108.1 | 114.0 | 94.9 | 173.1 |
| 4 | 22 | 75 | 36.0 | 79.1 | 92.3 | 88.6 | 95.1 | [illegible] | 133.0 | 225.5 |
| 4 | 23 | 75 | 34.1 | 76.4 | 76.9 | 84.7 | 108.9 | 103.3 | 88.2 | 172.1 |
| 4 | 24 | 75 | 37.0 | 55.3 | 71.8 | 92.9 | 107.9 | 91.4 | 86.4 | 166.7 |
| 4 | 25 | 75 | 31.9 | 80.9 | 92.0 | 100.0 | 93.8 | 93.1 | 170.0 | 122.9 |
| 4 | 26 | 75 | 45.2 | 79.5 | 71.6 | 106.0 | 105.6 | 99.0 | 92.2 | 132.0 |
| 4 | 27 | 75 | 43.5 | 82.0 | 85.0 | 97.0 | 106.3 | 128.3 | 104.0 | 160.5 |
| 4 | 28 | 75 | 230.0 | 64.4 | 79.1 | 85.3 | 78.7 | 98.9 | 77.9 | 122.6 |
| 4 | 29 | 75 | 59.4 | 64.4 | 72.0 | 81.0 | 101.9 | 79.1 | 104.0 | 103.8 |
| 4 | 30 | 75 | 34.7 | 67.6 | 82.5 | 67.0 | 100.0 | 92.9 | 57.0 | 102.3 |
| 5 | 1 | 75 | 74.8 | 85.0 | 101.0 | 100.0 | 111.0 | 107.0 | 103.0 | 127.5 |
| 5 | 2 | 75 | 37.5 | 87.2 | 90.0 | 71.5 | 96.0 | 90.0 | 87.0 | 90.0 |
| 5 | 3 | 75 | 52.3 | 67.9 | 80.9 | 82.6 | 82.4 | 101.3 | 81.3 | 78.3 |
| 5 | 4 | 75 | 67.7 | 78.0 | 90.7 | 100.0 | 96.1 | 111.6 | 77.5 | 95.1 |
| 5 | 5 | 75 | 60.1 | 83.3 | 88.5 | 100.1 | 100.7 | 73.3 | 75.7 | 72.5 |
| 5 | 6 | 75 | 27.0 | 90.6 | 86.7 | 92.7 | 110.5 | 84.2 | 83.7 | 71.2 |
| 5 | 7 | 75 | 21.9 | 77.8 | 88.2 | 74.5 | 56.4 | 95.0 | 60.5 | 64.0 |
| 5 | 8 | 75 | 33.5 | 86.3 | 91.4 | 95.6 | 111.0 | 83.4 | 96.7 | 84.2 |
| 5 | 9 | 75 | 29.9 | 94.0 | 80.7 | 71.0 | 89.5 | 84.7 | 68.5 | 68.7 |
| 5 | 10 | 75 | 71.0 | 102.1 | 85.7 | 61.5 | 88.1 | 95.3 | 87.2 | 77.5 |
| 5 | 11 | 75 | 45.0 | 107.0 | 104.9 | 68.7 | 82.5 | 83.8 | 71.4 | 60.5 |
| 5 | 12 | 75 | 81.0 | 63.9 | 79.9 | 78.0 | 83.3 | 38.6 | 64.9 | 48.6 |
| 5 | 13 | 75 | 53.6 | 64.3 | 62.8 | 66.5 | 75.4 | 73.2 | 65.9 | 52.4 |
| 5 | 16 | 75 | 46.9 | 66.5 | 37.1 | 41.0 | 47.5 | 29.0 | 56.8 | 46.3 |
| 5 | 19 | 75 | 110.0 | 64.5 | 33.7 | 37.3 | 49.2 | 21.4 | 48.8 | 48.7 |
| 5 | 22 | 75 | 114.0 | 53.5 | 35.0 | 19.8 | 9.8 | 8.6 | 25.0 | 54.0 |
| 5 | 25 | 75 | 265.0 | 62.0 | 53.3 | 12.6 | 22.0 | 9.9 | 22.4 | 44.1 |
| 5 | 28 | 75 | 130.0 | 55.9 | 34.0 | 11.5 | 34.9 | 10.4 | 22.0 | 34.3 |
| 5 | 31 | 75 | 57.6 | 36.4 | 46.7 | 10.3 | 8.6 | 14.9 | 16.8 | 16.0 |
| 6 | 3 | 75 | 49.6 | 60.7 | 26.2 | 13.3 | 44.1 | 14.9 | 14.7 | 11.6 |
| 6 | 6 | 75 | 46.5 | 37.4 | 78.3 | 39.6 | 12.0 | 11.5 | 7.3 | 13.8 |
| 6 | 9 | 75 | 32.9 | 19.8 | 17.4 | 24.1 | 18.3 | 39.5 | 10.0 | 19.5 |
| 6 | 12 | 75 | 63.3 | 42.2 | 34.2 | 16.9 | 9.7 | 68.3 | 13.6 | 11.0 |
| 6 | 15 | 75 | 59.2 | 72.2 | 29.8 | 8.3 | 7.8 | 8.4 | 19.4 | 7.7 |
| 6 | 18 | 75 | 18.3 | 58.0 | 58.5 | 11.5 | 7.6 | 14.7 | 9.3 | 6.6 |
| 6 | 21 | 75 | 16.1 | 37.3 | 43.2 | 5.5 | 7.5 | 4.3 | 11.4 | 10.1 |
| 6 | 24 | 75 | 18.0 | 77.5 | 56.7 | 20.6 | 12.2 | 14.1 | 22.3 | 5.0 |
| 6 | 27 | 75 | 103.0 | 79.5 | 65.0 | 11.3 | 7.9 | 29.0 | 8.1 | 4.6 |
| 6 | 30 | 75 | 132.0 | 73.5 | 91.1 | 10.9 | 10.0 | 39.0 | 11.9 | 2.9 |
| 7 | 3 | 75 | 10.4 | 36.4 | 31.5 | 17.7 | 5.0 | 5.3 | 7.9 | 1.4 |
| 7 | 6 | 75 | 20.1 | 35.5 | 27.2 | 96.5 | 7.9 | 5.0 | 5.4 | 5.1 |
| 7 | 9 | 75 | 22.9 | 33.1 | 25.7 | 13.8 | 8.6 | 10.7 | 9.1 | 4.4 |
| 7 | 12 | 75 | 8.6 | 36.9 | 19.4 | 10.2 | 4.1 | 15.2 | 4.0 | 3.6 |
| 7 | 15 | 75 | 9.0 | 50.9 | 25.7 | 12.7 | 1.3 | 2.2 | 3.3 | 2.9 |
| 7 | 16 | 75 | 32.0 | 58.0 | 28.3 | 16.5 | 11.0 | 14.6 | 12.1 | 5.9 |
| 7 | 17 | 75 | 34.7 | 68.5 | 43.4 | 15.0 | 12.0 | 10.9 | 4.1 | 3.0 |
| 7 | 18 | 75 | 29.5 | 69.2 | 37.3 | 10.1 | 11.4 | 7.9 | 8.4 | 4.0 |

Table B-3. (Continued).

SUSPENDED SOLIDS (MG/L)

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 19 | 75 | 32.7 | 77.3 | 41.3 | 29.5 | 7.0 | 16.0 | 7.2 | 4.4 |
| 7 | 20 | 75 | 29.1 | 56.4 | 37.7 | 15.0 | 3.1 | 3.4 | 1.7 | 9.5 |
| 7 | 21 | 75 | 63.° | 130.9 | 35.0 | 13.1 | 2.5 | 2.5 | 5.3 | 3.6 |
| 7 | 22 | 75 | 30.7 | 66.7 | 40.0 | 21.7 | 4.9 | 2.9 | 4.6 | 4.5 |
| 7 | 23 | 75 | 32.7 | 87.0 | 42.5 | 23.6 | 5.0 | 26.9 | 2.5 | 4.0 |
| 7 | 24 | 75 | 33.5 | 71.1 | 54.4 | 50.5 | 5.0 | 11.6 | 4.5 | 2.0 |
| 7 | 25 | 75 | 49.3 | 67.9 | 47.9 | 22.2 | 4.5 | 2.1 | 2.2 | 8.4 |
| 7 | 26 | 75 | 124.0 | 64.1 | 50.7 | 33.2 | 8.1 | 4.1 | 5.2 | 2.0 |
| 7 | 27 | 75 | 81.7 | 79.2 | 47.1 | 32.0 | 7.0 | 2.0 | 3.3 | 2.9 |
| 7 | 28 | 75 | 62.0 | 54.7 | 36.0 | 32.1 | 3.6 | 4.1 | 12.9 | 3.1 |
| 7 | 29 | 75 | 102.9 | 88.0 | 60.2 | 27.8 | 4.4 | 4.4 | 3.1 | 2.2 |
| 7 | 30 | 75 | 30.0 | 62.0 | 63.0 | ND | 2.3 | 2.0 | 2.1 | 0.5 |
| 7 | 31 | 75 | 54.9 | 91.0 | 53.3 | 55.0 | 7.1 | 5.1 | 5.7 | 1.9 |
| 8 | 1 | 75 | 36.7 | 102.5 | 68.9 | 52.7 | 8.2 | 3.6 | 5.1 | 4.2 |
| 8 | 2 | 75 | 32.7 | 122.7 | 90.0 | 63.3 | 7.3 | 5.1 | 3.8 | 5.4 |
| 8 | 3 | 75 | 41.6 | 91.0 | 93.0 | 66.7 | 6.6 | 5.7 | 4.9 | 3.1 |
| 8 | 4 | 75 | 27.6 | 93.0 | 79.0 | 57.5 | 5.9 | 6.4 | 5.2 | 3.6 |
| 8 | 5 | 75 | ND | 93.5 | 113.0 | 66.0 | 5.0 | 5.4 | 6.2 | 1.0 |
| 8 | 6 | 75 | 21.7 | 99.2 | 124.0 | 58.0 | 7.0 | 5.4 | 3.0 | 3.1 |
| 8 | 7 | 75 | 34.0 | 93.0 | 77.1 | 71.5 | 7.2 | 16.7 | 1.7 | 15.3 |
| 8 | 8 | 75 | 33.6 | 78.0 | 48.9 | 50.7 | 8.0 | 23.0 | 3.3 | 2.4 |
| 8 | 9 | 75 | 39.1 | 73.0 | 56.5 | 54.9 | 5.2 | 6.1 | 3.6 | 1.1 |
| 8 | 10 | 75 | 50.4 | 68.5 | 30.5 | 48.9 | 3.5 | 7.1 | 2.6 | 1.5 |
| 8 | 11 | 75 | 56.5 | 60.3 | 31.6 | 33.9 | 3.0 | 3.6 | 8.7 | 0.7 |
| 8 | 12 | 75 | 44.1 | 79.0 | 40.4 | 35.0 | 4.3 | 3.4 | 1.1 | 1.2 |
| 8 | 13 | 75 | 50.5 | 73.0 | 42.1 | 34.0 | 3.3 | 2.8 | 0.1 | 1.6 |
| 8 | 14 | 75 | ND | 61.0 | 48.3 | 43.9 | 4.9 | 1.8 | 1.0 | 2.9 |
| 8 | 17 | 75 | 53.4 | 88.3 | 70.2 | 47.7 | 3.2 | 2.1 | 3.8 | 5.1 |
| 8 | 20 | 75 | 74.6 | 85.4 | 75.6 | 40.2 | 3.6 | 4.3 | 3.5 | 4.5 |
| 8 | 23 | 75 | 60.4 | 109.0 | 94.1 | 48.0 | 3.1 | 0.4 | 0.9 | 5.1 |
| 8 | 26 | 75 | 57.6 | 96.0 | 89.7 | 48.8 | 3.2 | 1.0 | 3.0 | 1.9 |
| 8 | 29 | 75 | 48.0 | 97.0 | 70.0 | 59.7 | 4.4 | 3.1 | 3.6 | 2.0 |
| 9 | 1 | 75 | 23.3 | 130.0 | 98.0 | 47.0 | 6.7 | 2.1 | 3.8 | 1.9 |
| 9 | 4 | 75 | 81.2 | 114.0 | 101.0 | 60.0 | 3.9 | 3.5 | 4.0 | 2.5 |
| 9 | 7 | 75 | 11.3 | 110.0 | 128.0 | 69.9 | 14.5 | 2.4 | ND | 3.9 |
| 9 | 10 | 75 | 42.0 | 112.5 | 105.7 | 82.0 | 10.4 | 3.9 | 4.8 | 3.0 |
| 9 | 13 | 75 | 53.7 | 91.9 | 105.7 | 81.0 | 35.3 | 5.1 | 4.0 | 3.2 |
| 9 | 16 | 75 | 57.0 | 91.8 | 117.7 | 85.0 | 43.3 | 11.4 | 16.0 | 4.7 |
| 9 | 19 | 75 | 65.5 | 66.2 | 59.7 | 89.0 | 20.7 | 5.0 | 6.2 | 1.5 |
| 9 | 22 | 75 | ND | 65.9 | 107.6 | 69.2 | 37.6 | 4.0 | 2.0 | 0.5 |
| 9 | 25 | 75 | 62.0 | 91.0 | 82.0 | 72.5 | 35.5 | 5.8 | 3.6 | 1.7 |
| 9 | 28 | 75 | 51.0 | 110.5 | 104.0 | 80.0 | 51.4 | 5.2 | 4.4 | 2.4 |
| 10 | 1 | 75 | 30.0 | 87.0 | 97.5 | 88.3 | 42.3 | 9.9 | 4.0 | 12.5 |
| 10 | 4 | 75 | 57.0 | 104.9 | 95.3 | 77.6 | 44.4 | 9.0 | 1.5 | 3.2 |
| 10 | 7 | 75 | 27.3 | 109.0 | 112.0 | 60.0 | 39.6 | 7.5 | 6.5 | 3.1 |
| 10 | 10 | 75 | 272.9 | 105.7 | 105.0 | 56.9 | 43.0 | 8.1 | 9.7 | 3.4 |
| 10 | 13 | 75 | 321.3 | 78.8 | 88.0 | 55.5 | 40.9 | 3.9 | 3.9 | 0.4 |
| 10 | 16 | 75 | 493.5 | 82.2 | 80.6 | 66.7 | 36.4 | 11.4 | 2.7 | 7.2 |
| 10 | 20 | 75 | 52.6 | 77.2 | 79.1 | 57.5 | 45.6 | 9.4 | 6.0 | 4.0 |
| 10 | 21 | 75 | 52.0 | 86.0 | 80.0 | 75.2 | 40.4 | 10.4 | 3.9 | 2.0 |
| 10 | 22 | 75 | 39.6 | 71.9 | 79.3 | 66.2 | 38.9 | 9.6 | 6.6 | 2.2 |
| 10 | 23 | 75 | 89.9 | 89.1 | 81.1 | 64.4 | 40.4 | 11.5 | 5.3 | 1.5 |
| 10 | 24 | 75 | 72.4 | 86.1 | 82.1 | 113.0 | 34.2 | 5.6 | 23.5 | 3.4 |
| 10 | 25 | 75 | 77.9 | 91.2 | 75.9 | 81.0 | 42.5 | 9.4 | 11.5 | 2.2 |
| 10 | 26 | 75 | 59.7 | 84.1 | 83.1 | 63.3 | 27.8 | 5.9 | 13.0 | 2.9 |
| 10 | 27 | 75 | 94.0 | 71.6 | 78.5 | 69.0 | 38.3 | 6.3 | 12.4 | 1.8 |
| 10 | 28 | 75 | 70.0 | 84.4 | 65.5 | 67.5 | 34.9 | 3.9 | 16.8 | 2.0 |
| 10 | 29 | 75 | 39.1 | 77.5 | 78.5 | 60.2 | 32.7 | 9.7 | 19.2 | 2.3 |
| 10 | 30 | 75 | 45.9 | 78.5 | 76.0 | 63.4 | 40.3 | 13.2 | 11.2 | 4.5 |
| 10 | 31 | 75 | 29.6 | 69.5 | 79.6 | 48.3 | 43.3 | 12.6 | 8.8 | 4.6 |
| 11 | 1 | 75 | 23.7 | 82.4 | 72.5 | 65.3 | 38.7 | 13.5 | 8.1 | 3.0 |
| 11 | 2 | 75 | 16.7 | 62.9 | 78.8 | 58.5 | 47.8 | 14.2 | 10.4 | 3.1 |
| 11 | 3 | 75 | 79.1 | 70.3 | 75.8 | 51.5 | 58.8 | 16.1 | 14.9 | 3.6 |
| 11 | 4 | 75 | 207.8 | 73.3 | 70.9 | 58.5 | 51.6 | 22.3 | 11.7 | 4.0 |
| 11 | 5 | 75 | 64.7 | 68.1 | 89.0 | 69.0 | 44.1 | 15.9 | 12.4 | 19.0 |
| 11 | 6 | 75 | 35.4 | 95.1 | 61.9 | 64.0 | 43.9 | 21.8 | 17.6 | 6.3 |
| 11 | 7 | 75 | 14.7 | 60.3 | 63.8 | 54.4 | 37.4 | 31.4 | 13.9 | 2.6 |
| 11 | 8 | 75 | 40.0 | 64.9 | 62.6 | 56.7 | 40.7 | 30.4 | 19.9 | 3.1 |
| 11 | 9 | 75 | 62.1 | 65.6 | 63.2 | 58.7 | 42.5 | 27.2 | 18.0 | 3.4 |
| 11 | 10 | 75 | 74.1 | 111.0 | 57.0 | 53.5 | 43.4 | 19.6 | 19.4 | 3.9 |
| 11 | 11 | 75 | 66.1 | 74.3 | 56.5 | 52.5 | 41.8 | 22.2 | 17.3 | 3.9 |
| 11 | 12 | 75 | 60.5 | 56.9 | 62.5 | 56.0 | 40.0 | 32.5 | 23.3 | 6.1 |
| 11 | 13 | 75 | 32.3 | 52.6 | 48.1 | 50.9 | 59.5 | 26.2 | 15.1 | 3.1 |
| 11 | 14 | 75 | 53.1 | 52.5 | 39.2 | 48.6 | 42.8 | 28.4 | 20.8 | 5.1 |
| 11 | 15 | 75 | 37.4 | 47.6 | 52.2 | 57.6 | 40.8 | 26.6 | 20.0 | 3.4 |
| 11 | 16 | 75 | 72.2 | 67.4 | 46.0 | 47.7 | 47.5 | 24.2 | 15.6 | 3.5 |
| 11 | 17 | 75 | 54.7 | 56.0 | 46.5 | 47.6 | 51.9 | 30.0 | 21.7 | 5.4 |
| 11 | 18 | 75 | 49.7 | 61.0 | 50.0 | 58.3 | 41.3 | 23.2 | 23.5 | 6.4 |
| 11 | 19 | 75 | 330.0 | 58.5 | 50.0 | 51.0 | 37.4 | 18.9 | 18.5 | 7.0 |
| 11 | 20 | 75 | 133.7 | 57.0 | 45.6 | 43.3 | 39.7 | 19.7 | 21.1 | 5.0 |
| 11 | 23 | 75 | 127.6 | 65.6 | 38.0 | 46.0 | 45.7 | 18.7 | 13.1 | 5.8 |
| 11 | 26 | 75 | 85.0 | 55.2 | 44.0 | 37.2 | 39.6 | 22.9 | 13.0 | 8.2 |
| 12 | 2 | 75 | 131.6 | 13.2 | 47.6 | 23.1 | 45.9 | 37.9 | 16.3 | 9.9 |
| 12 | 5 | 75 | 73.0 | 31.2 | 27.9 | 31.7 | 49.1 | 16.6 | 9.9 | 10.7 |
| 12 | 8 | 75 | 46.1 | 32.2 | 31.5 | 33.8 | 33.7 | 21.7 | 10.0 | 7.5 |
| 12 | 11 | 75 | 85.2 | 39.7 | 29.6 | 28.8 | 31.0 | 24.0 | 15.4 | 7.4 |
| 12 | 14 | 75 | 52.9 | 29.9 | 29.8 | 27.4 | 37.8 | 23.8 | 13.3 | 9.4 |
| 12 | 17 | 75 | 43.5 | 29.4 | 27.0 | 29.2 | 35.6 | 21.0 | 14.9 | 10.9 |
| 12 | 20 | 75 | 39.2 | 22.1 | 24.9 | 27.6 | 26.2 | 20.5 | 9.2 | 8.7 |
| 12 | 23 | 75 | 37.1 | 24.5 | 20.5 | 24.6 | 27.2 | 21.5 | 11.2 | 6.5 |
| 12 | 31 | 75 | 76.9 | 18.6 | 17.9 | ND | 21.1 | 33.8 | 15.0 | 10.2 |
| 1 | 3 | 76 | 66.1 | 23.3 | 24.3 | 20.0 | 37.7 | 31.1 | 13.2 | 11.5 |
| 1 | 6 | 76 | 61.4 | 23.1 | 29.1 | 21.4 | 19.7 | 20.1 | 32.0 | 8.2 |
| 1 | 9 | 76 | 108.0 | 26.5 | 40.0 | 24.0 | 38.9 | 23.1 | 21.9 | 7.9 |
| 1 | 12 | 76 | 120.0 | 23.2 | 27.5 | 25.5 | 19.0 | 51.4 | 17.0 | 10.1 |
| 1 | 15 | 76 | 60.6 | 16.2 | 15.7 | 13.9 | 54.0 | 61.3 | 23.6 | 26.8 |
| 1 | 18 | 76 | 8.6 | 9.2 | 17.1 | 13.7 | 16.0 | 26.8 | 8.2 | 7.8 |
| 1 | 21 | 76 | 70.3 | 13.4 | 14.2 | 21.4 | 15.9 | 34.6 | 13.6 | 11.1 |
| 1 | 24 | 76 | 52.6 | 13.0 | 19.0 | 21.4 | 2'.1 | 21.3 | 25.7 | 17.3 |
| 1 | 27 | 76 | 33.9 | 13.2 | 10.2 | 32.2 | 26.5 | 28.6 | 33.6 | 46.4 |
| 1 | 30 | 76 | 616.1 | 22.9 | 9.2 | 31.6 | 18.9 | 28.0 | 19.4 | 13.6 |

Table B-4. Volatile suspended solids performance of the Corinne Waste Stabilization Lagoon System.

VOLATILE SUSPENDED SOLIDS (MG/L)

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23 | 75 | ND | 62.9 | 36.7 | 45.2 | NS | 3.9 | 5.9 | 3.2 |
| 1 | 24 | 75 | 43.3 | 69.2 | NS | 39.9 | NS | 8.1 | NS | 4.4 |
| 1 | 25 | 75 | 101.0 | 49.0 | 40.5 | 35.4 | 12.2 | NS | 4.8 | 3.8 |
| 1 | 26 | 75 | 75.0 | 36.5 | 30.0 | 29.5 | 14.2 | 5.0 | 4.3 | 2.5 |
| 1 | 27 | 75 | 166.0 | 42.7 | 29.8 | 33.0 | 13.6 | 9.0 | 10.7 | 5.0 |
| 1 | 28 | 75 | 24.7 | NS | 17.0 | NS | 13.2 | 3.3 | 4.0 | 1.3 |
| 1 | 29 | 75 | 70.0 | 46.4 | 28.2 | 22.5 | NS | 6.0 | 7.3 | 2.3 |
| 1 | 30 | 75 | 102.6 | 50.0 | 21.7 | 28.5 | 18.4 | 9.0 | 10.0 | NS |
| 1 | 31 | 75 | 71.9 | 43.3 | 24.7 | 23.5 | 17.8 | 10.9 | 9.8 | 4.5 |
| 2 | 1 | 75 | 50.8 | 59.0 | 27.3 | 34.0 | 34.2 | 16.1 | 14.3 | 4.2 |
| 2 | 2 | 75 | 61.3 | 47.3 | 32.7 | 26.9 | 32.0 | 20.3 | 17.5 | 6.9 |
| 2 | 3 | 75 | 101.2 | 59.0 | 41.9 | 47.1 | 44.5 | 17.6 | 16.0 | 6.0 |
| 2 | 4 | 75 | 35.4 | 63.0 | 40.0 | 34.1 | 35.4 | ND | 0.0 | 3.8 |
| 2 | 5 | 75 | 106.0 | 53.0 | 58.0 | 35.3 | 34.7 | 28.0 | 9.4 | 6.8 |
| 2 | 6 | 75 | 53.0 | 59.3 | 75.7 | 57.7 | 42.4 | 27.8 | 16.0 | 2.2 |
| 2 | 7 | 75 | 86.2 | 61.0 | 46.7 | 48.1 | 56.7 | 32.9 | 18.3 | 8.0 |
| 2 | 8 | 75 | 94.1 | 47.3 | 30.9 | 57.6 | 32.8 | 30.0 | 22.0 | 1.1 |
| 2 | 9 | 75 | 70.1 | 48.1 | 40.5 | 46.4 | 43.8 | 16.2 | ND | 1.5 |
| 2 | 10 | 75 | 68.0 | 69.2 | 28.2 | 47.5 | 29.3 | 24.5 | 22.2 | 0.2 |
| 2 | 11 | 75 | 13.0 | 62.6 | 36.1 | 48.1 | 15.8 | 25.3 | 13.1 | 9.9 |
| 2 | 12 | 75 | 40.9 | 43.7 | 38.5 | 46.7 | 35.2 | 21.0 | 7.0 | 8.2 |
| 2 | 13 | 75 | 24.1 | 44.0 | 58.4 | 33.1 | 32.6 | 30.0 | 15.5 | 2.2 |
| 2 | 14 | 75 | 74.3 | 43.0 | 29.0 | 36.5 | 40.7 | 21.9 | 15.1 | 6.1 |
| 2 | 15 | 75 | 22.5 | 45.4 | 41.0 | 26.5 | 46.8 | 29.7 | 19.8 | 6.2 |
| 2 | 16 | 75 | 23.1 | 61.8 | 38.8 | 41.5 | 38.4 | 35.7 | 14.3 | 5.6 |
| 2 | 17 | 75 | 23.5 | 58.9 | 43.3 | 38.7 | 44.3 | 24.6 | 14.8 | 5.2 |
| 2 | 18 | 75 | 45.5 | 50.0 | 51.9 | 49.2 | 45.5 | 32.6 | 15.1 | 5.4 |
| 2 | 19 | 75 | 39.3 | 66.0 | 48.0 | 53.6 | 44.4 | 29.5 | 14.0 | 5.7 |
| 2 | 20 | 75 | 23.0 | 50.0 | 57.3 | 50.0 | 47.2 | 23.0 | 14.5 | 3.0 |
| 2 | 21 | 75 | 10.4 | 44.1 | 48.7 | 49.1 | 39.4 | 28.5 | 13.0 | 3.8 |
| 2 | 22 | 75 | 42.7 | 53.0 | 51.9 | 56.2 | 46.8 | 30.2 | 12.7 | 6.2 |
| 2 | 27 | 75 | 40.6 | 67.0 | 56.0 | 54.3 | 52.2 | 43.6 | 33.5 | 19.1 |
| 2 | 28 | 75 | 16.7 | 54.6 | 30.0 | 45.9 | 46.1 | 40.3 | 32.2 | 18.5 |
| 3 | 3 | 75 | 45.9 | 84.0 | 69.0 | 56.0 | 47.0 | 32.6 | 30.0 | 26.3 |
| 3 | 6 | 75 | 62.0 | 81.0 | 60.0 | 57.0 | 52.0 | 5.0 | 20.5 | 19.6 |
| 3 | 9 | 75 | 32.1 | 70.0 | 103.1 | 50.0 | 37.8 | 42.3 | 23.0 | 11.1 |
| 3 | 12 | 75 | 8.1 | 56.1 | 61.8 | 63.7 | 68.0 | 49.2 | 37.0 | 10.8 |
| 3 | 15 | 75 | 80.8 | 51.5 | 34.7 | 40.3 | 60.5 | 68.2 | 39.8 | 22.9 |
| 3 | 18 | 75 | 37.9 | 34.0 | 32.5 | 41.0 | 47.3 | 41.0 | 40.7 | 27.2 |
| 3 | 21 | 75 | 33.6 | 33.4 | 30.3 | 38.3 | 38.0 | 56.0 | 43.2 | 41.7 |
| 3 | 24 | 75 | 17.0 | 26.8 | 33.1 | 39.0 | 44.0 | 63.5 | 48.7 | 43.0 |
| 3 | 28 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 3 | 31 | 75 | 22.1 | 37.0 | 22.0 | 63.7 | 65.3 | 65.0 | 100.0 | 50.3 |
| 4 | 2 | 75 | 18.8 | 25.0 | 27.4 | 40.0 | 62.4 | 56.0 | 82.1 | 56.2 |
| 4 | 5 | 75 | 12.2 | 31.0 | 30.1 | 34.1 | 51.2 | 80.7 | 42.9 | 59.0 |
| 4 | 8 | 75 | 56.8 | 34.5 | 38.9 | 51.4 | 72.9 | 98.1 | 92.0 | 75.0 |
| 4 | 11 | 75 | 32.4 | 59.0 | 39.3 | 70.0 | 82.1 | 128.6 | 70.0 | 71.1 |
| 4 | 14 | 75 | 31.5 | 63.0 | 201.1 | 77.8 | 78.7 | 97.1 | 77.8 | 75.0 |
| 4 | 15 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 4 | 16 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 4 | 17 | 75 | 45.0 | 66.7 | ND | 83.0 | 72.0 | 72.0 | 43.3 | 17.6 |
| 4 | 18 | 75 | 73.3 | 84.0 | 59.2 | 85.9 | 85.9 | 78.6 | ND | 62.1 |
| 4 | 19 | 75 | 24.0 | 71.6 | 65.9 | 69.4 | 81.0 | 78.6 | 61.7 | 75.5 |
| 4 | 20 | 75 | 26.5 | 55.3 | 55.6 | 71.3 | 78.6 | 64.0 | 57.1 | 55.8 |
| 4 | 21 | 75 | 19.3 | 57.6 | 84.7 | 81.8 | 91.9 | 82.5 | 64.6 | 63.5 |
| 4 | 22 | 75 | 26.0 | 76.7 | 80.2 | 86.1 | 70.4 | 72.0 | 85.7 | 105.9 |
| 4 | 23 | 75 | 21.6 | 74.2 | 14.3 | 68.2 | 85.6 | 70.0 | 66.7 | 69.8 |
| 4 | 24 | 75 | 24.0 | 55.3 | 64.7 | 61.2 | 80.8 | 67.9 | 69.1 | 35.2 |
| 4 | 25 | 75 | 18.1 | 75.3 | 82.0 | 87.5 | 87.5 | 72.2 | 143.0 | 50.0 |
| 4 | 26 | 75 | 28.0 | 68.2 | 55.7 | 73.5 | 81.1 | 71.8 | 56.3 | 28.0 |
| 4 | 27 | 75 | 23.0 | 61.8 | 46.0 | 67.0 | 70.8 | 83.8 | 60.0 | 65.4 |
| 4 | 28 | 75 | 150.0 | 57.8 | 50.5 | 67.4 | 56.2 | 65.3 | 50.5 | 41.9 |
| 4 | 29 | 75 | 31.9 | 67.8 | 50.0 | 71.0 | 69.2 | 54.5 | 52.0 | 32.9 |
| 4 | 30 | 75 | 25.3 | 61.9 | 64.2 | 63.8 | 70.0 | 60.2 | 33.0 | 47.7 |
| 5 | 1 | 75 | 41.2 | 73.0 | 84.8 | 78.0 | 73.0 | 73.0 | 60.0 | 50.0 |
| 5 | 2 | 75 | 25.0 | 75.2 | 77.0 | 65.0 | 76.7 | 69.0 | 59.0 | 34.0 |
| 5 | 3 | 75 | 36.0 | 66.1 | 61.7 | 66.7 | 72.5 | 60.0 | 45.5 | 25.0 |
| 5 | 4 | 75 | 50.3 | 66.9 | 74.4 | 80.3 | 78.0 | 76.0 | 45.7 | 36.6 |
| 5 | 5 | 75 | 38.5 | 68.5 | 69.4 | 77.8 | 69.3 | 56.7 | 39.3 | 35.3 |
| 5 | 6 | 75 | 24.7 | 80.3 | 67.4 | 78.0 | 84.0 | 57.9 | 46.9 | 40.9 |
| 5 | 7 | 75 | 16.5 | 65.2 | 71.2 | 63.5 | 42.3 | 68.4 | 49.0 | 28.0 |
| 5 | 8 | 75 | 22.5 | 67.5 | 69.1 | 76.1 | 80.0 | 53.6 | 53.0 | 34.6 |
| 5 | 9 | 75 | 22.8 | 75.9 | 74.0 | 52.0 | 66.0 | 57.9 | 43.1 | 31.3 |
| 5 | 10 | 75 | 45.5 | 82.4 | 75.7 | 46.0 | 65.9 | 65.1 | 51.0 | 37.8 |
| 5 | 11 | 75 | 39.0 | 103.0 | 83.5 | 52.1 | 63.9 | 60.2 | 46.1 | 42.1 |
| 5 | 12 | 75 | 31.0 | 58.5 | 64.9 | 55.4 | 58.0 | 37.3 | 33.3 | 26.4 |
| 5 | 15 | 75 | 39.1 | 31.7 | 48.1 | 54.5 | 49.7 | 54.5 | 38.7 | 23.2 |
| 5 | 16 | 75 | 36.9 | 33.0 | 31.0 | 34.5 | 40.0 | 13.5 | 38.9 | 26.8 |
| 5 | 19 | 75 | 75.0 | 48.0 | 11.2 | 7.7 | 19.9 | 10.7 | 32.8 | 35.1 |
| 5 | 22 | 75 | 74.0 | 48.5 | 30.0 | 8.6 | 4.7 | 2.4 | 17.0 | 35.5 |
| 5 | 25 | 75 | 165.8 | 55.5 | 30.3 | 5.6 | 7.6 | 3.4 | 15.6 | 34.5 |
| 5 | 28 | 75 | 103.8 | 49.3 | 6.7 | 4.3 | 24.5 | 3.3 | 10.1 | 25.3 |
| 5 | 31 | 75 | 35.4 | 26.4 | 25.3 | 3.6 | 0.5 | 3.6 | 2.7 | 6.9 |
| 6 | 3 | 75 | 42.5 | 43.2 | 18.3 | 7.3 | 35.3 | 6.0 | 4.1 | 7.9 |
| 6 | 6 | 75 | 35.0 | 21.7 | 24.7 | 16.6 | 7.9 | 4.3 | 1.4 | 8.4 |
| 6 | 9 | 75 | 22.0 | 14.8 | 13.4 | 14.3 | 9.0 | 10.0 | 1.4 | 15.4 |
| 6 | 12 | 75 | 50.9 | 30.6 | 32.4 | 6.1 | 6.9 | 24.9 | 3.6 | 4.2 |
| 6 | 15 | 75 | 31.8 | 51.9 | 24.5 | 1.3 | 4.2 | 1.6 | 5.3 | 4.1 |
| 6 | 18 | 75 | 16.7 | 51.0 | 45.8 | 6.7 | 3.8 | 7.1 | 2.9 | 2.5 |
| 6 | 21 | 75 | 10.5 | 31.4 | 39.2 | 3.0 | 4.0 | 1.2 | 3.1 | 7.5 |
| 6 | 24 | 75 | 17.8 | 59.5 | 49.8 | 7.1 | 5.0 | 6.2 | 8.0 | 1.1 |
| 6 | 27 | 75 | 98.0 | 67.1 | 55.1 | 3.7 | 5.9 | 5.6 | 2.7 | 2.1 |
| 6 | 30 | 75 | 77.0 | 59.8 | 42.4 | 5.1 | 4.4 | 16.7 | 4.3 | 0.4 |
| 7 | 3 | 75 | 7.8 | 34.2 | 29.2 | 10.8 | 2.9 | 1.6 | 3.0 | 1.0 |
| 7 | 6 | 75 | 5.6 | 20.4 | 20.5 | 45.2 | 3.8 | 1.4 | 1.0 | 1.1 |
| 7 | 9 | 75 | 19.5 | 27.6 | 12.4 | 6.7 | 6.5 | 9.9 | 5.2 | 1.9 |
| 7 | 12 | 75 | 6.6 | 39.2 | 11.1 | 5.2 | 2.1 | 8.6 | 2.8 | 1.9 |
| 7 | 15 | 75 | 7.0 | 42.7 | 18.3 | 12.5 | 0.4 | 1.1 | 0.1 | 1.7 |
| 7 | 16 | 75 | 23.0 | 45.8 | 23.6 | 9.3 | 5.9 | 7.0 | 4.9 | 3.9 |
| 7 | 17 | 75 | 26.3 | 56.5 | 34.9 | 10.0 | 4.9 | 5.5 | 1.3 | 0.5 |
| 7 | 18 | 75 | 19.3 | 46.6 | 28.0 | 7.2 | 4.9 | 4.6 | 3.0 | 0.6 |

Table B-4. (Continued).

VOLATILE SUSPENDED SOLIDS (MG/L)

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 19 | 75 | 29.1 | 66.3 | 31.7 | 25.2 | 6.1 | 9.8 | 6.3 | 3.3 |
| 7 | 20 | 75 | 21.3 | 55.3 | 32.3 | 12.9 | 0.9 | 1.6 | 0.3 | 2.6 |
| 7 | 21 | 75 | 46.5 | 97.3 | 29.3 | 13.1 | 2.2 | 0.9 | 3.0 | 3.1 |
| 7 | 22 | 75 | 20.3 | 51.6 | 37.5 | 20.0 | 3.1 | 1.3 | 3.1 | 2.0 |
| 7 | 23 | 75 | 31.4 | 76.0 | 40.9 | 15.2 | 2.9 | 20.8 | 0.7 | 2.1 |
| 7 | 24 | 75 | 24.7 | 46.3 | 53.6 | 24.0 | 6.6 | 7.9 | 1.0 | 0.8 |
| 7 | 25 | 75 | 27.3 | 63.0 | 43.6 | 17.0 | 2.2 | 1.3 | 0.1 | 5.3 |
| 7 | 26 | 75 | 100.0 | 58.0 | 37.9 | 24.4 | 4.9 | 1.4 | 3.9 | 0.5 |
| 7 | 27 | 75 | 58.0 | 58.3 | 24.5 | 23.9 | 4.9 | 1.4 | 1.3 | 1.6 |
| 7 | 28 | 75 | 37.5 | 43.1 | 34.0 | 27.5 | 1.6 | 0.7 | 7.0 | 0.6 |
| 7 | 29 | 75 | 52.2 | 59.0 | 22.1 | 21.1 | 3.0 | 1.7 | 1.6 | 2.2 |
| 7 | 30 | 75 | 26.1 | 62.0 | 58.0 | ND | 2.1 | 0.1 | 1.6 | 0.5 |
| 7 | 31 | 75 | 38.9 | 76.0 | 51.4 | 45.0 | 6.0 | 2.0 | 2.0 | 1.9 |
| 8 | 1 | 75 | 31.7 | 68.8 | 60.4 | 42.5 | 8.2 | 2.1 | 2.5 | 1.6 |
| 8 | 2 | 75 | 32.7 | 84.0 | 87.0 | 59.7 | 6.1 | 2.2 | 0.9 | 1.6 |
| 8 | 3 | 75 | 28.4 | 71.0 | 83.0 | 56.1 | 2.0 | 2.0 | 2.9 | 0.5 |
| 8 | 4 | 75 | 20.0 | 80.0 | 71.0 | 56.7 | 3.9 | 1.6 | 2.2 | 1.5 |
| 8 | 5 | 75 | ND | 83.4 | 103.0 | 43.0 | 4.3 | ND | 1.5 | 0.3 |
| 8 | 6 | 75 | 15.7 | 73.6 | 84.0 | 43.0 | 4.8 | 0.8 | 1.4 | ND |
| 8 | 7 | 75 | 27.2 | 80.0 | 50.4 | 52.3 | 6.7 | 11.0 | 1.4 | 11.1 |
| 8 | 8 | 75 | 32.4 | 75.0 | 40.4 | 46.4 | 6.2 | 15.0 | 1.1 | 0.9 |
| 8 | 9 | 75 | 32.9 | 66.0 | 47.9 | 45.1 | 3.8 | 3.5 | 1.8 | 0.5 |
| 8 | 10 | 75 | 32.4 | 62.3 | 27.8 | 45.9 | 1.9 | 3.6 | 0.8 | ND |
| 8 | 11 | 75 | 44.0 | ND | ND | 33.9 | 3.8 | 2.5 | 5.9 | ND |
| 8 | 12 | 75 | 30.0 | 71.0 | 36.6 | 31.0 | 2.5 | 3.0 | 1.1 | 1.0 |
| 8 | 13 | 75 | ND | 68.0 | 42.1 | 30.0 | 2.4 | 2.0 | ND | 0.5 |
| 8 | 14 | 75 | ND | 61.0 | 47.6 | 37.6 | 3.0 | 1.0 | 1.0 | 1.3 |
| 8 | 17 | 75 | 42.6 | 84.4 | 61.9 | 43.1 | 2.0 | 1.0 | 3.0 | 3.5 |
| 8 | 20 | 75 | 61.5 | 85.4 | 74.4 | 35.6 | 2.8 | 1.8 | 1.3 | 2.2 |
| 8 | 23 | 75 | 26.9 | 97.0 | 61.2 | 40.1 | 2.8 | 0.4 | 0.7 | 3.0 |
| 8 | 26 | 75 | 47.7 | 79.0 | 82.5 | 43.9 | 1.5 | 0.5 | 1.3 | 0.3 |
| 8 | 29 | 75 | 36.0 | 80.0 | 65.0 | 52.8 | 2.7 | 2.1 | 1.1 | 0.1 |
| 9 | 1 | 75 | 16.0 | 87.0 | 68.7 | 42.0 | 4.1 | 1.8 | 1.6 | ND |
| 9 | 4 | 75 | 66.7 | 103.0 | 92.0 | 56.8 | 1.9 | 2.1 | 2.4 | 0.9 |
| 9 | 7 | 75 | ND | 97.0 | 98.0 | 52.2 | 9.4 | 1.1 | ND | 3.1 |
| 9 | 10 | 75 | 30.0 | 90.6 | 86.4 | 61.0 | 11.9 | 1.3 | 3.3 | 0.6 |
| 9 | 13 | 75 | 45.0 | 72.6 | 100.0 | 75.0 | 30.2 | 2.4 | 0.9 | 2.4 |
| 9 | 16 | 75 | 43.5 | 67.1 | 78.5 | 52.0 | 39.6 | 4.0 | 10.8 | 2.4 |
| 9 | 19 | 75 | 36.5 | 56.3 | 48.6 | 56.9 | 10.0 | 2.2 | 1.8 | ND |
| 9 | 22 | 75 | ND | 65.9 | 83.1 | 66.6 | 37.6 | 3.0 | ND | ND |
| 9 | 25 | 75 | 41.5 | 84.0 | 78.0 | 72.5 | 35.5 | 2.1 | 3.0 | 0.7 |
| 9 | 28 | 75 | 40.8 | 87.9 | 80.0 | 69.6 | 39.5 | 0.9 | 1.4 | ND |
| 10 | 1 | 75 | 22.3 | 66.0 | 90.0 | 71.2 | 37.7 | 6.1 | 3.9 | 6.6 |
| 10 | 4 | 75 | 40.9 | 93.2 | 79.7 | 66.4 | 41.8 | 4.9 | 1.5 | 0.2 |
| 10 | 7 | 75 | 22.0 | 66.0 | 90.0 | 53.0 | 37.9 | 2.9 | 1.3 | 2.3 |
| 10 | 10 | 75 | 227.1 | 84.1 | 78.3 | 56.9 | 35.5 | 6.1 | 5.8 | 1.0 |
| 10 | 13 | 75 | 214.0 | 73.7 | 88.0 | 53.1 | 32.6 | 3.6 | ND | ND |
| 10 | 16 | 75 | 345.2 | 68.1 | 70.1 | 65.8 | 35.8 | 10.8 | ND | 6.6 |
| 10 | 20 | 75 | 45.1 | 58.6 | 65.1 | 51.1 | 35.9 | 2.6 | 4.6 | 2.4 |
| 10 | 21 | 75 | 41.6 | 80.3 | 70.7 | 69.4 | 40.4 | 11.3 | 3.2 | 1.3 |
| 10 | 22 | 75 | 31.6 | 62.1 | 71.0 | 57.2 | 30.9 | 6.9 | ND | 1.7 |
| 10 | 23 | 75 | 59.7 | 69.7 | 70.5 | 61.5 | 31.6 | 3.8 | 2.4 | 1.3 |
| 10 | 24 | 75 | 59.0 | 60.8 | 77.2 | 91.6 | 31.7 | 3.6 | 15.0 | 1.7 |
| 10 | 25 | 75 | 61.1 | 70.4 | 74.4 | 66.4 | 40.6 | 5.9 | 5.9 | 2.2 |
| 10 | 26 | 75 | 64.5 | 74.1 | 75.6 | 55.6 | 27.1 | 3.8 | 4.6 | 2.1 |
| 10 | 27 | 75 | 53.0 | 68.9 | 66.9 | 67.0 | 33.3 | 2.8 | 4.0 | 0.5 |
| 10 | 28 | 75 | 43.5 | 79.6 | 65.0 | 61.5 | 34.9 | 3.0 | 1.4 | 2.0 |
| 10 | 29 | 75 | 26.8 | 63.0 | 74.5 | 60.2 | 0.0 | 5.9 | 6.0 | 2.3 |
| 10 | 30 | 75 | 36.7 | 71.0 | 71.0 | 61.0 | 36.5 | 9.3 | 3.0 | 2.2 |
| 10 | 31 | 75 | 24.8 | 68.4 | 75.9 | 43.8 | 39.9 | 8.5 | 0.9 | 2.0 |
| 11 | 1 | 75 | 17.1 | 65.9 | 62.7 | 64.2 | 34.3 | 11.8 | 2.6 | 0.3 |
| 11 | 2 | 75 | 12.1 | 62.9 | 70.3 | 50.5 | 40.7 | 11.6 | 2.5 | 0.3 |
| 11 | 3 | 75 | 60.4 | 61.5 | 69.4 | 41.8 | 50.6 | 9.7 | 4.0 | 2.3 |
| 11 | 4 | 75 | 162.2 | 60.0 | 70.9 | 51.0 | 46.0 | 14.5 | 5.1 | 0.8 |
| 11 | 5 | 75 | 63.5 | 60.9 | 79.8 | 63.5 | 39.3 | 16.3 | 3.1 | 11.2 |
| 11 | 6 | 75 | 24.6 | 86.1 | 60.1 | 57.5 | 38.8 | 18.0 | 6.0 | 2.5 |
| 11 | 7 | 75 | 14.7 | 60.3 | 59.8 | 49.6 | 37.4 | 20.3 | 4.8 | 1.7 |
| 11 | 8 | 75 | 26.8 | 49.3 | 57.4 | 48.8 | 40.7 | 17.7 | 8.5 | 1.9 |
| 11 | 9 | 75 | 42.6 | 57.2 | 57.6 | 48.6 | 42.5 | 19.1 | 7.4 | 1.3 |
| 11 | 10 | 75 | 69.2 | 65.2 | 51.5 | 49.0 | 35.2 | 14.9 | 6.4 | 2.8 |
| 11 | 11 | 75 | 58.9 | 62.4 | 46.7 | 43.0 | 37.7 | 15.5 | 6.7 | 2.4 |
| 11 | 12 | 75 | 43.7 | 66.2 | 52.5 | 52.0 | 32.0 | 23.7 | 6.7 | 2.6 |
| 11 | 13 | 75 | 22.7 | 50.5 | 44.8 | 43.6 | 42.5 | 18.4 | 5.6 | 0.5 |
| 11 | 14 | 75 | 38.9 | 69.0 | 38.4 | 36.7 | 30.7 | 22.4 | 8.8 | 2.0 |
| 11 | 15 | 75 | ND | 43.4 | 46.5 | 52.4 | 36.2 | 18.7 | 9.6 | 2.4 |
| 11 | 16 | 75 | 48.1 | 36.4 | 44.8 | 43.1 | 38.5 | 17.4 | 5.2 | 2.5 |
| 11 | 17 | 75 | 48.8 | 48.0 | 41.0 | 39.4 | 36.5 | 20.2 | 5.7 | 2.1 |
| 11 | 18 | 75 | 44.6 | 59.0 | 43.6 | 50.3 | 30.6 | 12.7 | 10.5 | 3.4 |
| 11 | 19 | 75 | 294.0 | 52.0 | 39.5 | 49.5 | 27.2 | 9.3 | 6.5 | 2.9 |
| 11 | 20 | 75 | 117.8 | 35.2 | 40.0 | 41.0 | 31.7 | 13.3 | 6.6 | 2.3 |
| 11 | 23 | 75 | 96.2 | 39.2 | 34.8 | 44.1 | 41.4 | 11.7 | 5.7 | 3.4 |
| 11 | 26 | 75 | 64.0 | 43.6 | 35.2 | 25.6 | 34.7 | 17.9 | 7.4 | 1.7 |
| 12 | 2 | 75 | 92.4 | 12.7 | 35.6 | 18.4 | 38.4 | 20.8 | 10.0 | 4.0 |
| 12 | 5 | 75 | 55.0 | 29.7 | 19.7 | 28.1 | 45.6 | 13.9 | 5.0 | 3.6 |
| 12 | 8 | 75 | 46.1 | ND | 28.0 | 31.6 | ND | 20.3 | 6.5 | 3.7 |
| 12 | 11 | 75 | 58.3 | 36.5 | 25.2 | 27.2 | 26.6 | 16.2 | 10.0 | 3.0 |
| 12 | 14 | 75 | 39.5 | 26.3 | 26.4 | 25.4 | 32.3 | 16.0 | 8.4 | 4.6 |
| 12 | 17 | 75 | 36.5 | 28.2 | 23.0 | 25.4 | 34.0 | 18.6 | 11.7 | 5.5 |
| 12 | 20 | 75 | 28.6 | 25.1 | 21.6 | 24.6 | 16.6 | 14.4 | 5.6 | 4.7 |
| 12 | 23 | 75 | 37.1 | 21.4 | 16.7 | 23.4 | 25.5 | 13.9 | 8.3 | 5.4 |
| 12 | 31 | 75 | 56.5 | 16.1 | 15.5 | ND | 19.8 | 17.4 | 9.6 | 3.4 |
| 1 | 3 | 76 | 58.6 | 18.1 | 20.8 | 17.0 | 32.6 | 22.9 | 9.5 | 4.9 |
| 1 | 6 | 76 | 57.5 | 22.9 | 25.7 | ND | ND | 18.4 | 24.4 | 4.5 |
| 1 | 9 | 76 | 74.0 | 17.5 | 31.7 | 18.8 | 30.4 | 18.8 | 17.2 | 3.9 |
| 1 | 12 | 76 | 79.0 | 21.3 | 25.3 | 23.6 | 14.8 | 30.5 | 14.1 | 5.5 |
| 1 | 15 | 76 | 56.0 | 14.8 | 13.9 | 12.8 | 41.0 | 36.0 | 16.9 | 15.3 |
| 1 | 18 | 76 | 8.2 | 7.2 | 14.3 | 12.9 | 14.0 | 16.3 | ND | 6.2 |
| 1 | 21 | 76 | 56.5 | 8.9 | 9.0 | 17.4 | 11.8 | 22.9 | 12.8 | 3.4 |
| 1 | 24 | 76 | 48.0 | 12.6 | 15.4 | 19.0 | 20.1 | 20.8 | 21.7 | 15.5 |
| 1 | 27 | 76 | 31.3 | 9.9 | 9.4 | 25.5 | 20.0 | 22.4 | 29.4 | 29.6 |
| 1 | 30 | 76 | 306.5 | 19.4 | 5.2 | 31.6 | 16.9 | 22.5 | 19.0 | 10.6 |

Table B-5. Chemical oxygen demand (COD) performance of the Corinne Waste Stabilization Lagoon System.

COD (MG/L) FROM EPA LAB

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 21 | 75 | 137. | 174. | 105. | 109. | NS | ND | 60. | 67. |
| 1 | 24 | 75 | 142. | 116. | NS | 98. | NS | 60. | NS | 66. |
| 1 | 25 | 75 | 105. | 58. | 92. | 95. | 77. | NS | 62. | 64. |
| 1 | 26 | 75 | 177. | 78. | 40. | 87. | 80. | 80. | 61. | 86. |
| 1 | 27 | 75 | NS | 131. | 96. | 106. | 73. | NS | NS | 59. |
| 1 | 28 | 75 | 130. | NS | 87. | NS | NS | 67. | 67. | 87. |
| 1 | 29 | 75 | NS | 132. | 96. | 103. | NS | 84. | NS | 55. |
| 1 | 30 | 75 | 160. | 129. | 89. | 107. | 95. | 60. | NS | NS |
| 1 | 31 | 75 | 282. | 159. | 118. | 131. | 122. | 107. | 133. | 82. |
| 2 | 1 | 75 | NS | 152. | 126. | 133. | 149. | 120. | 123. | 94. |
| 2 | 2 | 75 | 250. | 173. | 149. | 146. | 117. | ND | 127. | 132. |
| 2 | 3 | 75 | 203. | 142. | 123. | 120. | 157. | 112. | 93. | 92. |
| 2 | 4 | 75 | 308. | 152. | 120. | 116. | 116. | 107. | 88. | 89. |
| 2 | 5 | 75 | 261. | 139. | 148. | 136. | 136. | 128. | 83. | 78. |
| 2 | 6 | 75 | 216. | 139. | 154. | 147. | 133. | 109. | 117. | 98. |
| 2 | 7 | 75 | 171. | 137. | 121. | 124. | 156. | 136. | 107. | 88. |
| 2 | 8 | 75 | 236. | 157. | 126. | 160. | 118. | 129. | 117. | 70. |
| 2 | 9 | 75 | 152. | 93. | 108. | 119. | 109. | 98. | 93. | 79. |
| 2 | 10 | 75 | 135. | 82. | 78. | 118. | 99. | 95. | 93. | 70. |
| 2 | 11 | 75 | 69. | 88. | 75. | 99. | 106. | 80. | 96. | 70. |
| 2 | 12 | 75 | 85. | 97. | 88. | 124. | 120. | 108. | 98. | 78. |
| 2 | 13 | 75 | 109. | 108. | 127. | 107. | 122. | 127. | 114. | 82. |
| 2 | 14 | 75 | 153. | 122. | 120. | 116. | 133. | 124. | 90. | 64. |
| 2 | 15 | 75 | 82. | 115. | 113. | 101. | 126. | 136. | 120. | 63. |
| 2 | 16 | 75 | 103. | 145. | 113. | 115. | 143. | 128. | 95. | 55. |
| 2 | 17 | 75 | 86. | 146. | 116. | 126. | 139. | 107. | 82. | 69. |
| 2 | 18 | 75 | 93. | 110. | 105. | 95. | 105. | 98. | 90. | 30. |
| 2 | 19 | 75 | 80. | 109. | 97. | 79. | 53. | 98. | 68. | 31. |
| 2 | 20 | 75 | 83. | 93. | 123. | 107. | 110. | 93. | 79. | 42. |
| 2 | 21 | 75 | 60. | 93. | 91. | 115. | 109. | 85. | 76. | 45. |
| 2 | 22 | 75 | 100. | 111. | 119. | 154. | ND | 123. | 81. | 81. |
| 2 | 27 | 75 | 110. | 142. | 130. | 130. | 129. | 129. | 99. | 103. |
| 2 | 28 | 75 | 106. | 149. | 118. | 110. | 131. | 122. | 104. | 110. |
| 3 | 3 | 75 | 190. | 144. | 132. | 123. | 119. | 113. | 106. | 107. |
| 3 | 6 | 75 | 116. | 179. | 138. | 135. | 120. | 6. | 87. | 90. |
| 3 | 9 | 75 | 139. | 138. | 177. | 129. | 116. | 89. | 81. | 79. |
| 3 | 12 | 75 | 66. | 123. | 140. | 139. | 109. | 96. | 66. | 58. |
| 3 | 15 | 75 | ND | 177. | 85. | 98. | 130. | 132. | 90. | 60. |
| 3 | 18 | 75 | 96. | 111. | 108. | 210. | 146. | 119. | 90. | 121. |
| 3 | 21 | 75 | 131. | 112. | 172. | 109. | 119. | 131. | 124. | 114. |
| 3 | 24 | 75 | 123. | 103. | 112. | 93. | 127. | 118. | 130. | 103. |
| 3 | 28 | 75 | 271. | 92. | 110. | 118. | 122. | 143. | 133. | 113. |
| 3 | 31 | 75 | 84. | 83. | 94. | 141. | 127. | 134. | 138. | 133. |
| 4 | 2 | 75 | 83. | 62. | 37. | 108. | 107. | 128. | 141. | 127. |
| 4 | 5 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 4 | 8 | 75 | 296. | 165. | 107. | 136. | 137. | 156. | 134. | 145. |
| 4 | 11 | 75 | 154. | 108. | 117. | 137. | 149. | 160. | 123. | 115. |
| 4 | 14 | 75 | 106. | 154. | 137. | 180. | 150. | 217. | 153. | 139. |
| 4 | 15 | 75 | 164. | 124. | 124. | 152. | 158. | 144. | 111. | 128. |
| 4 | 16 | 75 | 104. | 92. | 127. | 154. | 156. | 153. | 127. | 120. |
| 4 | 17 | 75 | 110. | 136. | 84. | 142. | 140. | 140. | 127. | 109. |
| 4 | 18 | 75 | 174. | 116. | 120. | 113. | 144. | 136. | 130. | 98. |
| 4 | 19 | 75 | 66. | 128. | 106. | 118. | 123. | 96. | 106. | 98. |
| 4 | 20 | 75 | 65. | 125. | 118. | 104. | 147. | 124. | 109. | 120. |
| 4 | 21 | 75 | 78. | 111. | 107. | 128. | 122. | 108. | 96. | 93. |
| 4 | 22 | 75 | 69. | 107. | 100. | 113. | 127. | 97. | 110. | 102. |
| 4 | 23 | 75 | 128. | 106. | 94. | 122. | 126. | 105. | 85. | 84. |
| 4 | 24 | 75 | 58. | 102. | 82. | 111. | 129. | 100. | 83. | 104. |
| 4 | 25 | 75 | 53. | 96. | 105. | 99. | 123. | 95. | 117. | 88. |
| 4 | 26 | 75 | 34. | 88. | 77. | 126. | 119. | 111. | 73. | 45. |
| 4 | 27 | 75 | 39. | 72. | 99. | 113. | 96. | 102. | 87. | 63. |
| 4 | 28 | 75 | 288. | 133. | 131. | 146. | 139. | 143. | 99. | 89. |
| 4 | 29 | 75 | 130. | 121. | 129. | 140. | 149. | 139. | 102. | 93. |
| 4 | 30 | 75 | 85. | 115. | 130. | 130. | 149. | 130. | 113. | 102. |
| 5 | 1 | 75 | 67. | 135. | 146. | 126. | 144. | 124. | 103. | 87. |
| 5 | 2 | 75 | 88. | 157. | 163. | 133. | 152. | 133. | 115. | 100. |
| 5 | 3 | 75 | 80. | 66. | 110. | 109. | 108. | 85. | 64. | 33. |
| 5 | 4 | 75 | 56. | 56. | 51. | 107. | 106. | 69. | 51. | 38. |
| 5 | 5 | 75 | 50. | 79. | 92. | 101. | 98. | 68. | 39. | 40. |
| 5 | 6 | 75 | 67. | 113. | 116. | 133. | 140. | 101. | 77. | 61. |
| 5 | 7 | 75 | 92. | 134. | 143. | 130. | 159. | 134. | 119. | 88. |
| 5 | 8 | 75 | 104. | 142. | 153. | 163. | 165. | 142. | 118. | 93. |
| 5 | 9 | 75 | 77. | 149. | 130. | 137. | 141. | 123. | 119. | 104. |
| 5 | 10 | 75 | 101. | 112. | 123. | 116. | 120. | 117. | 94. | 76. |
| 5 | 11 | 75 | 109. | 196. | 139. | 103. | 130. | 111. | 86. | 86. |
| 5 | 12 | 75 | 122. | 143. | 132. | 120. | 130. | 120. | 131. | 84. |
| 5 | 13 | 75 | 92. | 114. | 103. | 102. | 121. | 100. | 86. | 81. |
| 5 | 16 | 75 | 129. | 92. | 71. | 67. | 89. | 98. | 79. | 83. |
| 5 | 19 | 75 | 168. | 128. | 71. | 92. | 64. | 64. | 71. | 81. |
| 5 | 22 | 75 | 149. | 131. | 85. | 64. | 78. | 77. | 73. | 111. |
| 5 | 25 | 75 | 214. | 98. | 76. | 32. | 28. | 26. | 51. | 68. |
| 5 | 28 | 75 | 154. | 103. | 82. | 39. | 41. | 36. | 36. | 63. |
| 5 | 31 | 75 | 87. | 84. | 87. | 59. | 37. | 38. | 61. | 51. |
| 6 | 3 | 75 | 60. | 89. | 105. | 57. | 71. | 60. | 45. | 56. |
| 6 | 6 | 75 | 73. | 73. | 66. | 55. | 60. | 55. | 42. | 46. |
| 6 | 9 | 75 | 96. | 73. | 58. | 68. | 59. | 64. | 30. | 45. |
| 6 | 12 | 75 | 94. | 93. | 73. | 60. | 60. | 80. | 57. | 55. |
| 6 | 15 | 75 | 60. | 113. | 77. | 59. | 60. | 58. | 58. | 54. |
| 6 | 18 | 75 | 58. | 116. | 104. | 65. | 60. | 64. | 56. | 53. |
| 6 | 21 | 75 | 31. | 78. | 89. | 62. | 66. | 53. | 48. | 50. |
| 6 | 24 | 75 | 50. | 107. | 102. | 60. | 53. | 53. | 57. | 44. |
| 6 | 27 | 75 | 137. | 112. | 110. | 61. | 54. | 60. | 45. | 48. |
| 6 | 30 | 75 | 120. | 93. | 79. | 58. | 59. | 70. | 52. | 47. |
| 7 | 3 | 75 | 84. | 77. | 62. | 54. | 54. | 54. | 67. | 55. |
| 7 | 6 | 75 | 17. | 62. | 54. | 71. | 57. | 50. | 49. | 48. |
| 7 | 9 | 75 | 47. | 66. | 57. | 53. | 48. | 61. | 55. | 52. |
| 7 | 12 | 75 | 20. | 68. | 53. | 47. | 49. | 58. | 53. | 50. |
| 7 | 15 | 75 | 42. | 100. | 83. | 69. | 57. | 59. | 65. | 68. |
| 7 | 16 | 75 | 65. | 104. | 81. | 62. | 51. | 59. | 58. | 52. |
| 7 | 17 | 75 | 58. | 109. | 91. | 62. | 51. | 55. | 57. | 56. |
| 7 | 18 | 75 | 65. | 155. | 156. | 80. | 67. | 70. | 73. | 70. |

Table B-5. (Continued).

COD (MG/L) FROM EPA LAB

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 19 | 75 | 78. | 157. | 122. | 81. | 63. | 74. | 73. | 75. |
| 7 | 20 | 75 | 67. | 146. | 121. | 76. | 63. | 65. | 69. | 81. |
| 7 | 21 | 75 | 55. | 143. | 126. | 79. | 58. | 63. | 69. | 64. |
| 7 | 22 | 75 | 75. | 144. | 140. | 105. | 66. | 75. | 68. | 61. |
| 7 | 23 | 75 | 73. | 160. | 146. | 106. | 68. | 73. | 66. | 67. |
| 7 | 24 | 75 | 76. | 172. | 130. | 139. | 66. | 66. | 65. | 69. |
| 7 | 25 | 75 | 72. | 145. | 66. | 64. | 67. | 92. | 114. | 81. |
| 7 | 26 | 75 | 127. | 176. | 146. | 146. | 81. | 76. | 73. | 68. |
| 7 | 27 | 75 | 132. | 167. | 137. | 116. | 60. | 69. | 67. | 70. |
| 7 | 28 | 75 | 80. | 155. | 124. | 117. | 70. | 70. | 73. | 72. |
| 7 | 29 | 75 | 131. | 149. | 156. | 145. | 76. | 81. | 65. | 78. |
| 7 | 30 | 75 | 94. | 138. | 154. | 137. | 71. | 76. | 69. | 64. |
| 7 | 31 | 75 | 110. | 151. | 118. | 135. | 74. | 78. | 72. | 72. |
| 8 | 1 | 75 | 119. | 156. | 154. | 117. | 62. | 64. | 59. | 62. |
| 8 | 2 | 75 | 89. | 164. | 159. | 127. | 65. | 59. | 60. | 59. |
| 8 | 3 | 75 | 71. | 126. | 166. | 126. | 53. | 57. | 57. | 60. |
| 8 | 4 | 75 | 63. | 150. | 147. | 132. | 55. | 58. | 58. | 50. |
| 8 | 5 | 75 | 81. | 136. | 162. | 111. | 57. | 53. | 55. | 50. |
| 8 | 6 | 75 | 51. | 142. | 124. | 117. | 54. | 69. | 52. | 51. |
| 8 | 7 | 75 | 55. | 165. | 135. | 120. | 57. | 55. | 60. | 73. |
| 8 | 8 | 75 | 85. | 135. | 92. | 103. | 74. | 74. | 58. | 55. |
| 8 | 9 | 75 | 78. | 155. | 89. | 151. | 55. | 72. | 54. | 62. |
| 8 | 10 | 75 | 88. | 140. | 96. | 150. | 74. | 75. | 70. | 67. |
| 8 | 11 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 8 | 12 | 75 | 75. | 156. | 108. | 98. | 61. | 60. | 63. | 71. |
| 8 | 13 | 75 | 81. | 135. | 116. | 89. | 72. | 72. | 67. | 71. |
| 8 | 14 | 75 | 113. | 240. | 135. | 117. | 67. | 61. | 75. | 122. |
| 8 | 17 | 75 | 86. | 172. | 150. | 128. | 54. | 56. | 58. | 59. |
| 8 | 20 | 75 | 93. | 191. | 174. | 168. | 71. | 60. | 63. | 63. |
| 8 | 23 | 75 | 89. | 189. | 176. | 128. | 69. | 67. | 72. | 69. |
| 8 | 26 | 75 | 93. | 205. | 187. | 149. | 65. | 68. | 58. | 70. |
| 8 | 29 | 75 | 56. | 176. | 158. | 155. | 58. | 58. | 56. | 54. |
| 9 | 1 | 75 | 73. | 214. | 183. | 159. | 65. | 47. | 52. | 68. |
| 9 | 4 | 75 | 118. | 222. | 217. | 159. | 58. | 50. | 53. | 52. |
| 9 | 7 | 75 | 33. | 183. | 191. | 140. | 61. | 53. | 53. | 59. |
| 9 | 10 | 75 | 84. | 173. | 187. | 161. | 70. | 52. | 57. | 65. |
| 9 | 13 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 9 | 16 | 75 | 100. | 161. | 143. | 138. | 84. | 56. | 55. | 54. |
| 9 | 19 | 75 | 128. | 168. | 157. | 156. | 107. | 52. | 54. | 56. |
| 9 | 22 | 75 | 509. | 147. | 128. | 164. | 92. | 52. | 57. | 54. |
| 9 | 25 | 75 | 98. | 85. | 103. | 93. | 54. | 54. | 50. | 53. |
| 9 | 28 | 75 | 130. | 172. | 175. | 140. | 117. | 64. | 57. | 58. |
| 10 | 1 | 75 | 34. | 98. | 123. | 113. | 49. | 52. | 34. | 52. |
| 10 | 4 | 75 | 113. | 393. | 131. | 150. | 131. | 68. | 56. | 53. |
| 10 | 7 | 75 | 66. | 167. | 167. | 140. | 114. | 51. | 47. | 49. |
| 10 | 10 | 75 | 495. | 167. | 185. | 144. | 124. | 63. | 54. | 51. |
| 10 | 13 | 75 | 400. | 161. | 159. | 131. | 85. | 68. | 48. | 24. |
| 10 | 16 | 75 | 707. | 169. | 167. | 124. | 99. | 64. | 46. | 53. |
| 10 | 20 | 75 | 153. | 128. | 153. | 135. | 104. | 54. | 61. | 52. |
| 10 | 21 | 75 | 80. | 98. | 80. | 95. | 82. | 59. | 47. | 52. |
| 10 | 22 | 75 | 61. | 92. | 112. | 93. | 56. | 64. | 56. | 48. |
| 10 | 23 | 75 | 121. | 107. | 107. | 93. | 139. | 71. | 120. | 58. |
| 10 | 24 | 75 | 142. | 162. | 152. | 145. | 99. | 66. | 71. | 59. |
| 10 | 25 | 75 | 139. | 122. | ND | 117. | 102. | 68. | 60. | 58. |
| 10 | 26 | 75 | 176. | 146. | 146. | 150. | 101. | 55. | 55. | 51. |
| 10 | 27 | 75 | 163. | 148. | 156. | 129. | 106. | 73. | 61. | 57. |
| 10 | 28 | 75 | 107. | 136. | 139. | 136. | 90. | 52. | 56. | 48. |
| 10 | 29 | 75 | 78. | 137. | 146. | 132. | 94. | 58. | 53. | 51. |
| 10 | 30 | 75 | 102. | 130. | 148. | 132. | 102. | 62. | 55. | 55. |
| 10 | 31 | 75 | 87. | 134. | 138. | 123. | 107. | 67. | 55. | 55. |
| 11 | 1 | 75 | 67. | 102. | 102. | 92. | 104. | 67. | 54. | 56. |
| 11 | 2 | 75 | 56. | 116. | 116. | 136. | 109. | 70. | 59. | 55. |
| 11 | 3 | 75 | 136. | 117. | 116. | 97. | 105. | 69. | 55. | 54. |
| 11 | 4 | 75 | 295. | 136. | 126. | 136. | 107. | 69. | 53. | 54. |
| 11 | 5 | 75 | 116. | 136. | 150. | 126. | 102. | 70. | 58. | 64. |
| 11 | 6 | 75 | 78. | 123. | 113. | 97. | 103. | 85. | 53. | ND |
| 11 | 7 | 75 | 50. | 96. | 86. | 88. | 115. | 101. | 53. | 54. |
| 11 | 8 | 75 | 78. | 114. | 104. | 110. | 102. | 66. | 54. | 53. |
| 11 | 9 | 75 | 116. | 109. | 96. | 106. | 109. | 76. | 62. | 55. |
| 11 | 10 | 75 | 136. | 117. | 86. | 96. | 102. | 79. | 59. | 56. |
| 11 | 11 | 75 | 86. | 87. | 77. | 70. | 113. | 76. | 60. | 53. |
| 11 | 12 | 75 | 120. | 80. | 78. | 79. | 103. | 89. | 63. | 55. |
| 11 | 13 | 75 | 66. | 82. | 78. | 76. | 118. | 90. | 62. | 53. |
| 11 | 14 | 75 | 80. | 76. | 77. | 79. | 102. | 93. | 65. | 55. |
| 11 | 15 | 75 | 112. | 121. | 112. | 126. | 87. | 75. | 58. | 44. |
| 11 | 16 | 75 | 126. | 103. | 121. | 126. | 89. | 77. | 47. | 40. |
| 11 | 17 | 75 | 187. | 137. | 115. | ND | 135. | ND | 65. | 43. |
| 11 | 18 | 75 | 164. | 154. | 121. | 152. | 103. | 75. | 59. | 58. |
| 11 | 19 | 75 | 210. | 133. | 98. | 123. | 98. | 70. | 55. | 54. |
| 11 | 20 | 75 | 217. | 165. | 121. | 121. | 92. | 75. | 64. | 56. |
| 11 | 23 | 75 | 231. | 119. | 65. | 105. | 107. | 72. | 52. | 54. |
| 11 | 26 | 75 | 191. | 97. | 97. | 95. | 91. | 77. | 60. | 59. |
| 12 | 2 | 75 | 256. | 53. | 102. | 75. | 109. | 98. | 96. | 54. |
| 12 | 5 | 75 | 186. | 107. | 90. | 111. | 77. | 73. | 61. | 60. |
| 12 | 8 | 75 | 218. | 104. | 93. | 127. | 84. | 75. | 61. | 58. |
| 12 | 11 | 75 | 179. | 108. | 81. | 87. | 80. | 64. | 55. | 45. |
| 12 | 14 | 75 | 243. | 105. | 105. | 110. | 117. | 71. | 55. | 48. |
| 12 | 17 | 75 | 137. | 92. | 89. | 79. | 104. | 69. | 70. | 50. |
| 12 | 20 | 75 | 101. | 71. | 73. | 70. | 76. | 56. | 50. | 48. |
| 12 | 23 | 75 | 150. | 99. | 68. | 81. | 82. | 62. | 51. | 54. |
| 12 | 31 | 75 | 227. | 74. | 83. | 76. | 74. | 72. | 64. | 59. |
| 1 | 3 | 76 | 229. | 76. | 89. | 85. | 95. | 79. | 67. | 52. |
| 1 | 6 | 76 | 236. | 166. | 77. | 76. | 67. | 68. | 73. | 52. |
| 1 | 9 | 76 | 250. | 106. | 102. | 116. | 101. | 73. | 60. | 54. |
| 1 | 12 | 76 | 237. | 86. | 79. | 98. | 75. | 125. | 70. | 53. |
| 1 | 15 | 76 | 176. | 73. | 95. | 68. | 121. | 159. | 72. | 85. |
| 1 | 18 | 76 | 31. | 38. | 29. | 23. | 13. | 76. | 69. | 63. |
| 1 | 21 | 76 | 202. | 27. | 31. | 14. | 12. | 23. | 65. | 65. |
| 1 | 24 | 76 | 202. | 34. | 14. | 14. | 34. | 81. | 73. | 118. |
| 1 | 27 | 76 | 161. | 24. | 4. | 43. | 126. | 93. | 113. | 128. |
| 1 | 30 | 76 | ND | ND | ND | ND | ND | ND | ND | ND |

Table B-6. Soluble chemical oxygen demand (SCOD) performance of the Corinne Waste Stabilization Lagoon System.

SOLUABLE COD (MG/L)    FROM EPA LAB

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23 | 75 | 80. | 48. | 53. | 54. | NS | ND | 59. | 57. |
| 1 | 24 | 75 | 77. | 63. | NS | 46. | NS | 50. | NS | 46. |
| 1 | 25 | 75 | 56. | 59. | 48. | 48. | 52. | NS | 54. | 59. |
| 1 | 26 | 75 | 76. | 63. | 46. | 46. | 49. | 52. | 48. | 48. |
| 1 | 27 | 75 | NS | 49. | 46. | 51. | 51. | NS | NS | 47. |
| 1 | 28 | 75 | 67. | NS | 45. | NS | NS | 51. | 50. | 50. |
| 1 | 29 | 75 | NS | 62. | 46. | 45. | NS | 52. | NS | 55. |
| 1 | 30 | 75 | 73. | 63. | 51. | 48. | 54. | 59. | NS | NS |
| 1 | 31 | 75 | 143. | 51. | 54. | 53. | 66. | 57. | 59. | 69. |
| 2 | 1 | 75 | NS | 53. | 50. | 61. | 62. | 61. | 63. | 61. |
| 2 | 2 | 75 | 76. | 62. | 56. | 63. | 58. | ND | 62. | 61. |
| 2 | 3 | 75 | ND | ND | 57. | 61. | 65. | 65. | 61. | 55. |
| 2 | 4 | 75 | 178. | 55. | 55. | 59. | 62. | 58. | ND | 59. |
| 2 | 5 | 75 | 83. | 53. | 54. | 58. | 63. | 66. | 68. | 55. |
| 2 | 6 | 75 | 95. | 67. | 51. | 59. | 56. | 56. | 58. | 54. |
| 2 | 7 | 75 | 70. | 50. | 58. | 66. | 55. | 45. | 66. | 53. |
| 2 | 8 | 75 | 64. | 46. | 57. | 60. | 59. | 62. | 72. | 56. |
| 2 | 9 | 75 | 67. | 46. | 48. | 52. | 54. | 62. | 62. | 55. |
| 2 | 10 | 75 | 55. | 67. | 51. | 54. | 54. | 61. | 58. | 55. |
| 2 | 11 | 75 | 67. | 50. | 51. | 52. | 57. | 55. | 61. | 59. |
| 2 | 12 | 75 | 50. | 58. | 50. | 53. | 59. | 58. | 69. | 54. |
| 2 | 13 | 75 | 44. | 44. | 46. | 51. | 57. | 59. | 62. | 50. |
| 2 | 14 | 75 | 58. | 62. | 51. | 51. | 53. | 59. | 57. | 49. |
| 2 | 15 | 75 | 76. | 39. | 45. | 56. | 46. | 53. | 58. | 40. |
| 2 | 16 | 75 | 37. | 62. | 47. | 49. | 53. | 53. | 55. | 35. |
| 2 | 17 | 75 | 44. | 38. | 42. | 47. | 44. | 47. | 49. | 37. |
| 2 | 18 | 75 | 56. | 50. | 62. | 61. | 63. | 70. | 66. | 43. |
| 2 | 19 | 75 | 47. | 51. | 48. | 52. | 62. | 71. | 48. | 40. |
| 2 | 20 | 75 | 53. | 65. | 48. | 58. | 59. | 64. | 70. | 46. |
| 2 | 21 | 75 | 51. | 63. | 52. | 56. | 54. | 66. | 69. | 31. |
| 2 | 22 | 75 | 52. | 52. | 66. | ND | ND | 70. | 59. | 53. |
| 2 | 27 | 75 | 58. | 60. | 49. | 44. | 52. | 56. | 64. | 52. |
| 2 | 28 | 75 | 65. | 63. | 43. | 45. | 44. | 52. | 56. | 60. |
| 3 | 3 | 75 | 45. | 39. | 43. | 51. | 52. | ND | ND | 53. |
| 3 | 6 | 75 | 52. | 37. | 48. | 61. | 42. | 7. | 47. | 47. |
| 3 | 9 | 75 | 59. | 37. | 42. | 34. | 32. | 39. | 34. | 45. |
| 3 | 12 | 75 | 46. | 44. | 49. | 53. | 30. | 38. | 41. | 46. |
| 3 | 15 | 75 | ND | 49. | 52. | 49. | 49. | 42. | 37. | 46. |
| 3 | 18 | 75 | 52. | 38. | 41. | 42. | 39. | 46. | 55. | 41. |
| 3 | 21 | 75 | 65. | 38. | 40. | 41. | 35. | 41. | 49. | 39. |
| 3 | 24 | 75 | 46. | 33. | 13. | 32. | 46. | 38. | 44. | 38. |
| 3 | 28 | 75 | 39. | 33. | 49. | 43. | 41. | 44. | 46. | 40. |
| 3 | 31 | 75 | 37. | 38. | 32. | 34. | 36. | 33. | 35. | 48. |
| 4 | 2 | 75 | 43. | 42. | 37. | 43. | 38. | 46. | 53. | 45. |
| 4 | 5 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 4 | 8 | 75 | 103. | 58. | 55. | 53. | 86. | 126. | 68. | 88. |
| 4 | 11 | 75 | 64. | 38. | 28. | 36. | 30. | 35. | 35. | 38. |
| 4 | 14 | 75 | 59. | 41. | 33. | 31. | 34. | 37. | 35. | 32. |
| 4 | 15 | 75 | 52. | 65. | 38. | 37. | 35. | 34. | 36. | 33. |
| 4 | 16 | 75 | 61. | 53. | 45. | 41. | 43. | 50. | 45. | 37. |
| 4 | 17 | 75 | 52. | 34. | 37. | 42. | 16. | 39. | 36. | 38. |
| 4 | 18 | 75 | 65. | 37. | 33. | 34. | 30. | 38. | 30. | 30. |
| 4 | 19 | 75 | 32. | 27. | 29. | 32. | 28. | 34. | 33. | 31. |
| 4 | 20 | 75 | 35. | 34. | 37. | 36. | 40. | 36. | 34. | 34. |
| 4 | 21 | 75 | 37. | 31. | 31. | 31. | 32. | 32. | 30. | 34. |
| 4 | 22 | 75 | 35. | 30. | 32. | 36. | 35. | 33. | 32. | 32. |
| 4 | 23 | 75 | 43. | 31. | 31. | 37. | 31. | 34. | 31. | 39. |
| 4 | 24 | 75 | 36. | 46. | 34. | ND | 30. | 35. | 30. | 39. |
| 4 | 25 | 75 | 37. | 32. | 33. | 35. | 30. | 30. | 30. | 33. |
| 4 | 26 | 75 | 34. | 33. | 34. | 34. | 36. | 44. | 40. | 40. |
| 4 | 27 | 75 | 39. | 37. | 32. | 34. | 34. | 33. | 33. | 35. |
| 4 | 28 | 75 | 45. | 31. | 32. | 30. | 32. | 33. | 31. | 33. |
| 4 | 29 | 75 | 33. | 30. | 33. | 29. | 30. | 31. | 32. | 30. |
| 4 | 30 | 75 | 36. | 31. | 32. | 36. | 38. | 39. | 37. | 35. |
| 5 | 1 | 75 | 34. | 33. | 30. | 33. | 32. | 29. | 30. | 29. |
| 5 | 2 | 75 | 33. | 32. | 33. | 29. | 29. | 36. | 36. | 30. |
| 5 | 3 | 75 | 37. | 32. | 23. | 32. | 36. | 34. | 36. | 31. |
| 5 | 4 | 75 | 44. | 35. | 37. | 30. | 34. | 36. | 32. | 31. |
| 5 | 5 | 75 | 41. | 35. | 32. | 31. | 39. | 43. | 35. | 32. |
| 5 | 6 | 75 | 32. | 35. | 39. | 39. | 35. | 36. | 38. | 34. |
| 5 | 7 | 75 | 36. | 39. | 38. | 38. | 38. | 38. | 36. | 39. |
| 5 | 8 | 75 | 46. | 36. | 36. | 40. | 38. | ND | 36. | 38. |
| 5 | 9 | 75 | 38. | 37. | 35. | 36. | 38. | 35. | 39. | 37. |
| 5 | 10 | 75 | 34. | 37. | 34. | 39. | 45. | 42. | 41. | 38. |
| 5 | 11 | 75 | 34. | 38. | 36. | 36. | 36. | 34. | 34. | 35. |
| 5 | 12 | 75 | 39. | 36. | 35. | 39. | 34. | 42. | 35. | 36. |
| 5 | 13 | 75 | 38. | 37. | 38. | 35. | 33. | 35. | 39. | 41. |
| 5 | 16 | 75 | 50. | 38. | 36. | 39. | 35. | 37. | 33. | 37. |
| 5 | 19 | 75 | 51. | 44. | 45. | 46. | 45. | 46. | 36. | 38. |
| 5 | 22 | 75 | 47. | 46. | 43. | 44. | 46. | 41. | 39. | 39. |
| 5 | 25 | 75 | 51. | 44. | 41. | 48. | 42. | 53. | 36. | 36. |
| 5 | 28 | 75 | 37. | 45. | 41. | 45. | 43. | 45. | 38. | 38. |
| 5 | 31 | 75 | 26. | 51. | 49. | 56. | 55. | 50. | 48. | 42. |
| 6 | 3 | 75 | 38. | 54. | 47. | 52. | 54. | 50. | 48. | 44. |
| 6 | 6 | 75 | 29. | 53. | 44. | 49. | 49. | 51. | 46. | 44. |
| 6 | 9 | 75 | 55. | 51. | 49. | 57. | 57. | 50. | 51. | 46. |
| 6 | 12 | 75 | 37. | 50. | 49. | 54. | 54. | 56. | 52. | 50. |
| 6 | 15 | 75 | 35. | 44. | 50. | 57. | 56. | 56. | 54. | 48. |
| 6 | 18 | 75 | 36. | 50. | 51. | 59. | 57. | 57. | 54. | 52. |
| 6 | 21 | 75 | 26. | 38. | 47. | 58. | 58. | 47. | 52. | 52. |
| 6 | 24 | 75 | 26. | 37. | 40. | 52. | 53. | 56. | 54. | 49. |
| 6 | 27 | 75 | 55. | 35. | 40. | 55. | 53. | 52. | 51. | 50. |
| 6 | 30 | 75 | 31. | 38. | 35. | 59. | 56. | 54. | 55. | 50. |
| 7 | 3 | 75 | 31. | 33. | 34. | 49. | 54. | 53. | 55. | 51. |
| 7 | 6 | 75 | 11. | 34. | 40. | 49. | 50. | 56. | 56. | 49. |
| 7 | 9 | 75 | 29. | 36. | 41. | 45. | 50. | 57. | 55. | 53. |
| 7 | 12 | 75 | 30. | 40. | 43. | 46. | 48. | 53. | 55. | 51. |
| 7 | 15 | 75 | 30. | 44. | 46. | 50. | 52. | 56. | 55. | 58. |
| 7 | 16 | 75 | 26. | 38. | 41. | 48. | 46. | 50. | 52. | 54. |
| 7 | 17 | 75 | 20. | 39. | 43. | 46. | 42. | 50. | 54. | 54. |
| 7 | 18 | 75 | 27. | 43. | 51. | 53. | 52. | 60. | 61. | 59. |

Table B-6. (Continued).

SOLUABLE COD (MG/L) FROM EPA LAB

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 19 | 75 | 34. | 46. | 47. | 50. | 51. | 59. | 59. | 55. |
| 7 | 20 | 75 | 51. | 46. | 50. | 56. | 48. | 60. | 59. | 60. |
| 7 | 21 | 75 | 32. | 42. | 46. | 53. | 48. | 57. | 64. | 55. |
| 7 | 22 | 75 | 41. | 42. | 47. | 52. | 43. | 46. | 54. | 57. |
| 7 | 23 | 75 | 45. | 39. | 46. | 56. | 52. | 55. | 55. | 57. |
| 7 | 24 | 75 | 38. | 40. | 47. | 52. | 47. | 54. | 53. | 50. |
| 7 | 25 | 75 | 43. | 46. | 49. | 57. | 55. | 55. | 67. | 61. |
| 7 | 26 | 75 | 44. | 76. | 48. | 52. | 56. | 64. | 62. | 64. |
| 7 | 27 | 75 | 37. | 54. | 63. | 62. | 60. | 65. | 61. | 67. |
| 7 | 28 | 75 | 34. | 51. | 48. | 55. | 56. | 58. | 56. | 62. |
| 7 | 29 | 75 | 40. | 49. | 49. | 54. | 55. | 56. | 60. | 60. |
| 7 | 30 | 75 | 41. | 47. | 49. | 56. | 59. | 59. | 59. | 61. |
| 7 | 31 | 75 | 41. | 56. | 55. | 57. | 67. | 54. | 60. | 59. |
| 8 | 1 | 75 | 35. | 44. | 47. | 48. | 52. | 51. | 50. | 61. |
| 8 | 2 | 75 | 36. | 52. | 57. | 48. | 49. | 49. | 49. | 52. |
| 8 | 3 | 75 | 37. | 42. | 44. | 44. | 50. | 56. | 47. | 48. |
| 8 | 4 | 75 | 34. | ND | 47. | 50. | 56. | 52. | 49. | 48. |
| 8 | 5 | 75 | 35. | 44. | 49. | 48. | 53. | 48. | 51. | 50. |
| 8 | 6 | 75 | 43. | 44. | 47. | 49. | 51. | 51. | 53. | 56. |
| 8 | 7 | 75 | 34. | 41. | 41. | 48. | 51. | 48. | 51. | 52. |
| 8 | 8 | 75 | 42. | 39. | 46. | 44. | 42. | 53. | 51. | 54. |
| 8 | 9 | 75 | 26. | 42. | 47. | 43. | 49. | 57. | 53. | 70. |
| 8 | 10 | 75 | 43. | 43. | 49. | 54. | 55. | 56. | 60. | 56. |
| 8 | 11 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 8 | 12 | 75 | 34. | 38. | 51. | 50. | 53. | 53. | 53. | 56. |
| 8 | 13 | 75 | 39. | 49. | 47. | 52. | 56. | 57. | 59. | 54. |
| 8 | 14 | 75 | 42. | 48. | 50. | 57. | 53. | 51. | 53. | 52. |
| 8 | 17 | 75 | 38. | 50. | 44. | 51. | 52. | 55. | 52. | 50. |
| 8 | 20 | 75 | 41. | 44. | 48. | 51. | 51. | 64. | 51. | 48. |
| 8 | 21 | 75 | 47. | 45. | 49. | 55. | 56. | 55. | 55. | 57. |
| 8 | 26 | 75 | 45. | 39. | 41. | 52. | 50. | 48. | 52. | 53. |
| 8 | 29 | 75 | 38. | 50. | 49. | 56. | 54. | 55. | 56. | 53. |
| 9 | 1 | 75 | 40. | 40. | 44. | 49. | 52. | 53. | 51. | 55. |
| 9 | 4 | 75 | 42. | 48. | 45. | 46. | 55. | 45. | 48. | 53. |
| 9 | 7 | 75 | 24. | 35. | 44. | 50. | 56. | 47. | 50. | 52. |
| 9 | 10 | 75 | 64. | 42. | 49. | 51. | 54. | 53. | 57. | 58. |
| 9 | 11 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 9 | 16 | 75 | 60. | 41. | 41. | 46. | 54. | 50. | 50. | ND |
| 9 | 19 | 75 | 61. | 39. | 43. | 42. | 59. | 52. | 52. | 54. |
| 9 | 22 | 75 | 85. | 39. | 47. | 52. | 55. | 51. | 52. | 52. |
| 9 | 25 | 75 | 55. | 45. | 47. | 53. | 54. | 53. | 54. | 52. |
| 9 | 28 | 75 | 43. | 19. | 44. | 53. | 59. | 57. | 54. | 52. |
| 10 | 1 | 75 | 17. | 34. | 39. | 41. | 53. | 58. | 44. | 43. |
| 10 | 4 | 75 | 30. | 36. | 41. | 48. | 53. | 52. | 57. | 52. |
| 10 | 7 | 75 | 29. | 32. | 38. | 45. | 55. | 51. | 49. | 48. |
| 10 | 10 | 75 | 66. | 35. | 37. | 46. | 52. | 53. | 51. | 47. |
| 10 | 13 | 75 | 48. | 32. | 34. | 42. | 58. | 46. | 51. | 49. |
| 10 | 16 | 75 | 60. | 32. | 34. | 39. | 45. | 49. | 49. | 48. |
| 10 | 20 | 75 | 58. | 38. | 40. | 43. | 52. | 52. | 49. | 47. |
| 10 | 21 | 75 | 51. | 45. | 45. | 52. | 62. | 55. | 54. | 52. |
| 10 | 22 | 75 | 49. | 44. | 45. | 50. | 53. | 57. | 54. | 52. |
| 10 | 23 | 75 | 59. | 45. | 44. | 48. | 56. | 53. | 51. | 53. |
| 10 | 24 | 75 | 50. | 41. | 41. | 50. | 50. | 50. | 50. | ND |
| 10 | 25 | 75 | 74. | 49. | ND | 47. | 55. | 50. | 50. | 53. |
| 10 | 26 | 75 | 61. | 40. | 41. | 49. | 48. | 50. | 49. | 50. |
| 10 | 27 | 75 | 45. | 41. | 41. | 49. | 50. | 51. | 50. | 51. |
| 10 | 28 | 75 | 46. | 36. | 41. | 48. | 49. | 50. | 48. | 45. |
| 10 | 29 | 75 | 39. | 41. | 46. | 46. | 52. | 48. | 46. | 49. |
| 10 | 30 | 75 | 48. | 41. | 43. | 50. | 60. | 49. | 49. | 50. |
| 10 | 31 | 75 | 58. | 33. | 40. | 45. | 51. | 50. | 48. | 49. |
| 11 | 1 | 75 | 43. | 30. | 33. | 39. | 43. | 45. | 40. | 41. |
| 11 | 2 | 75 | 41. | 39. | 41. | 46. | 51. | 50. | 47. | 48. |
| 11 | 3 | 75 | 52. | 36. | 38. | 45. | 49. | 48. | 42. | 46. |
| 11 | 4 | 75 | 61. | 39. | 42. | 46. | 50. | 52. | 48. | 50. |
| 11 | 5 | 75 | 47. | 41. | 43. | 46. | 51. | 49. | 48. | 48. |
| 11 | 6 | 75 | ND | 42. | 39. | 48. | 45. | 49. | 47. | ND |
| 11 | 7 | 75 | 64. | 48. | 47. | 50. | 56. | 49. | 48. | 53. |
| 11 | 8 | 75 | 47. | 43. | 41. | 48. | 52. | 53. | 48. | 47. |
| 11 | 9 | 75 | 53. | 44. | 41. | 48. | 48. | 54. | 49. | 48. |
| 11 | 10 | 75 | 59. | 40. | 42. | 43. | 47. | 49. | 46. | 48. |
| 11 | 11 | 75 | 50. | 34. | 33. | 36. | 43. | 42. | 39. | 49. |
| 11 | 12 | 75 | 46. | 31. | 33. | 36. | 39. | 43. | 41. | 41. |
| 11 | 13 | 75 | 56. | 37. | 34. | 40. | 42. | 46. | 44. | 43. |
| 11 | 14 | 75 | 44. | 35. | 32. | 40. | 48. | 42. | 39. | 40. |
| 11 | 15 | 75 | 58. | 54. | 44. | 49. | 54. | 56. | 69. | 56. |
| 11 | 16 | 75 | 70. | 54. | 39. | 51. | 55. | 64. | 66. | 62. |
| 11 | 17 | 75 | 79. | 45. | 54. | ND | 52. | ND | 51. | 54. |
| 11 | 18 | 75 | 55. | 43. | 48. | 44. | 50. | 52. | 51. | 55. |
| 11 | 19 | 75 | 65. | 48. | 42. | 45. | 47. | 47. | 51. | 49. |
| 11 | 20 | 75 | 69. | 50. | 49. | 51. | 55. | 51. | 51. | 52. |
| 11 | 21 | 75 | 72. | 41. | 35. | 44. | 47. | 51. | 45. | 50. |
| 11 | 26 | 75 | 93. | 51. | 46. | 50. | 50. | 51. | 47. | 51. |
| 12 | 2 | 75 | 80. | 44. | 42. | 47. | 59. | 49. | 53. | 48. |
| 12 | 5 | 75 | 59. | 47. | 49. | 51. | 45. | 51. | 54. | 49. |
| 12 | 8 | 75 | 65. | 49. | 45. | 45. | 52. | 50. | 55. | 44. |
| 12 | 11 | 75 | 65. | 46. | 42. | 43. | 60. | 43. | 43. | 46. |
| 12 | 14 | 75 | 53. | 43. | 47. | 44. | 61. | 46. | 47. | 50. |
| 12 | 17 | 75 | 62. | 50. | 42. | 43. | 43. | 44. | 59. | 51. |
| 12 | 20 | 75 | 39. | 45. | 44. | 43. | 42. | 46. | 56. | 46. |
| 12 | 23 | 75 | 50. | 48. | 42. | 41. | 43. | 44. | 48. | 48. |
| 12 | 31 | 75 | 101. | 48. | 46. | 49. | 47. | 47. | 54. | 54. |
| 1 | 3 | 76 | 123. | 51. | 44. | 45. | 46. | 47. | 41. | 47. |
| 1 | 6 | 76 | 62. | 55. | 48. | 41. | 41. | 44. | 45. | 47. |
| 1 | 9 | 76 | 59. | 59. | 40. | 48. | 42. | 45. | 53. | 42. |
| 1 | 12 | 76 | ND | 54. | 44. | 48. | 46. | 46. | 43. | 44. |
| 1 | 15 | 76 | 81. | 48. | 45. | 42. | 47. | 42. | 47. | 51. |
| 1 | 18 | 76 | 36. | 52. | 48. | 49. | 48. | 51. | 51. | 50. |
| 1 | 21 | 76 | 105. | 51. | 45. | 45. | 45. | 45. | 49. | 51. |
| 1 | 24 | 76 | 101. | 55. | 52. | 53. | 49. | 50. | 53. | 57. |
| 1 | 27 | 76 | 119. | 63. | 48. | 48. | 49. | 48. | 51. | 55. |
| 1 | 30 | 76 | ND | ND | ND | ND | ND | ND | ND | ND |

Table B-7. Temperature of the influent and effluent of each pond in the Corinne Waste Stabilization Lagoon System.

TEMPERATURE (DEGREES CENTIGRADE)

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23 | 75 | 9.0 | 2.5 | 0.0 | 0.0 | 1.0 | 0.4 | 1.0 | 1.0 |
| 1 | 24 | 75 | 9.5 | 1.5 | 0.5 | 0.0 | 0.0 | 1.5 | 2.0 | 0.4 |
| 1 | 25 | 75 | 9.9 | 1.5 | 0.9 | 1.1 | 1.0 | 2.0 | 2.0 | 2.5 |
| 1 | 26 | 75 | 9.1 | 1.6 | 1.0 | 1.1 | 1.0 | 1.9 | 1.0 | 1.3 |
| 1 | 27 | 75 | 9.9 | 2.1 | 1.2 | 1.0 | 1.2 | 2.0 | 0.9 | 2.5 |
| 1 | 28 | 75 | 8.5 | 1.9 | 0.0 | 1.1 | 1.0 | 1.3 | 2.2 | 1.9 |
| 1 | 29 | 75 | 10.2 | 2.1 | 1.0 | 2.1 | 2.2 | 2.5 | 1.2 | 3.0 |
| 1 | 30 | 75 | 9.9 | 2.0 | 1.0 | 1.2 | 2.6 | 1.5 | 1.0 | 2.0 |
| 1 | 31 | 75 | 9.9 | 2.1 | 1.7 | 1.0 | 2.0 | 2.2 | 1.0 | 2.5 |
| 2 | 1 | 75 | 9.9 | 1.2 | 0.0 | 0.9 | 0.7 | 0.7 | 1.6 | 2.5 |
| 2 | 2 | 75 | 9.1 | 1.6 | 1.3 | 1.7 | 1.9 | 2.0 | 2.9 | 3.0 |
| 2 | 3 | 75 | 10.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.5 | 0.6 | 1.9 |
| 2 | 4 | 75 | 10.0 | 1.5 | 1.1 | 1.0 | 1.2 | 1.1 | 0.9 | 0.9 |
| 2 | 5 | 75 | 10.0 | 0.9 | 0.6 | 0.0 | 1.0 | 1.2 | 0.0 | 0.0 |
| 2 | 6 | 75 | 8.0 | 1.3 | 0.9 | 1.1 | 1.1 | 0.9 | 2.3 | 1.0 |
| 2 | 7 | 75 | 9.7 | 1.7 | 0.0 | 1.0 | 0.6 | 1.6 | 0.0 | 1.0 |
| 2 | 8 | 75 | 9.9 | 1.2 | 0.7 | 0.7 | 1.0 | 1.0 | 0.5 | 0.0 |
| 2 | 9 | 75 | 9.1 | 2.1 | 1.0 | 1.0 | 1.1 | 1.0 | 1.6 | 1.6 |
| 2 | 10 | 75 | 8.2 | 1.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 0.3 |
| 2 | 11 | 75 | 8.1 | 2.1 | 1.3 | 1.2 | 1.6 | 1.1 | 1.0 | 0.9 |
| 2 | 12 | 75 | 7.7 | 2.2 | 0.7 | 0.9 | 0.9 | 0.0 | 0.9 | 1.0 |
| 2 | 13 | 75 | 8.1 | 1.3 | 1.1 | 1.0 | 1.0 | 1.0 | 1.6 | 2.0 |
| 2 | 14 | 75 | 8.1 | 2.0 | 2.0 | 1.6 | 2.1 | 0.9 | 2.0 | 1.6 |
| 2 | 15 | 75 | 6.0 | 1.2 | 0.6 | 0.2 | 0.2 | 0.3 | 0.7 | 0.9 |
| 2 | 16 | 75 | 6.3 | 0.0 | 0.3 | 0.5 | 0.9 | 0.7 | 0.0 | 0.9 |
| 2 | 17 | 75 | 7.0 | 3.1 | 0.2 | 0.4 | 0.6 | 0.1 | 0.0 | 1.0 |
| 2 | 18 | 75 | 7.0 | 0.0 | 0.3 | 0.3 | 0.9 | 0.7 | 1.1 | 1.2 |
| 2 | 19 | 75 | 8.0 | 0.9 | 0.1 | 0.6 | 0.2 | 0.2 | 0.6 | 0.9 |
| 2 | 20 | 75 | 7.9 | 0.0 | 0.6 | 0.3 | 1.1 | 0.9 | 0.9 | 1.7 |
| 2 | 21 | 75 | 6.0 | 0.1 | 0.2 | 0.7 | 0.2 | 0.2 | 0.7 | 0.9 |
| 2 | 22 | 75 | 8.2 | 0.7 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 1.0 |
| 2 | 27 | 75 | 7.9 | 0.9 | 1.3 | 1.3 | 1.2 | 1.2 | 2.0 | 2.7 |
| 2 | 28 | 75 | 7.5 | 1.0 | 1.1 | 1.0 | 1.9 | 1.2 | 1.9 | 2.0 |
| 3 | 3 | 75 | 8.2 | 3.9 | 2.9 | 2.2 | 2.0 | 2.1 | 2.0 | 2.9 |
| 3 | 6 | 75 | 8.1 | 6.1 | 4.3 | 4.0 | 4.1 | 3.1 | 3.2 | 4.5 |
| 3 | 9 | 75 | 8.2 | 7.0 | 5.5 | 4.6 | 4.5 | 4.4 | 4.0 | 5.0 |
| 3 | 12 | 75 | 8.6 | 5.5 | 5.5 | 4.4 | 4.5 | 4.0 | 4.6 | 4.6 |
| 3 | 15 | 75 | 8.1 | 5.0 | 6.0 | 6.0 | 6.0 | 6.1 | 6.1 | 5.0 |
| 3 | 18 | 75 | 8.6 | 7.0 | 6.0 | 5.9 | 5.6 | 5.6 | 5.0 | 6.0 |
| 3 | 21 | 75 | 9.0 | 7.9 | 7.0 | 7.3 | 7.6 | 7.1 | 6.5 | 7.5 |
| 3 | 24 | 75 | 9.0 | 6.0 | 5.5 | 6.5 | 6.1 | 6.0 | 6.0 | 5.7 |
| 3 | 27 | 75 | 8.5 | 3.7 | 1.7 | 0.2 | 1.0 | 1.0 | 0.5 | 0.6 |
| 3 | 31 | 75 | 9.0 | 3.5 | 2.7 | 2.9 | 3.2 | 2.9 | 2.0 | 2.9 |
| 4 | 2 | 75 | 8.0 | 6.0 | 2.1 | 2.5 | 3.0 | 3.5 | 2.1 | 3.6 |
| 4 | 5 | 75 | 9.1 | 7.0 | 5.7 | 5.0 | 5.7 | 5.0 | 5.6 | 5.7 |
| 4 | 8 | 75 | 9.0 | 5.0 | 4.6 | 4.6 | 4.6 | 4.7 | 4.3 | 5.5 |
| 4 | 11 | 75 | 9.7 | 7.1 | 7.0 | 6.5 | 7.2 | 7.0 | 6.5 | 7.0 |
| 4 | 14 | 75 | 10.0 | 9.5 | 9.6 | 9.2 | 9.5 | 9.0 | 9.0 | 8.7 |
| 4 | 15 | 75 | 10.5 | 9.5 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 4 | 16 | 75 | 10.0 | 9.4 | 8.6 | 9.0 | 9.0 | 9.0 | 8.3 | 8.6 |
| 4 | 17 | 75 | 7.5 | 7.5 | 7.6 | 7.6 | 6.4 | 7.4 | 7.2 | 7.0 |
| 4 | 18 | 75 | 9.2 | 7.0 | 7.0 | 7.5 | 7.2 | 8.0 | 6.9 | 7.0 |
| 4 | 19 | 75 | 9.2 | 9.0 | 7.6 | 8.0 | 7.4 | 7.5 | 8.0 | 8.0 |
| 4 | 20 | 75 | 9.3 | 9.0 | 9.0 | 9.0 | 9.2 | 9.6 | 9.2 | 9.0 |
| 4 | 21 | 75 | 10.2 | 9.5 | 9.1 | 10.0 | 10.0 | 10.0 | 9.2 | 8.8 |
| 4 | 22 | 75 | 10.0 | 11.3 | 10.5 | 10.5 | 11.1 | 11.0 | 11.0 | 10.2 |
| 4 | 23 | 75 | 10.7 | 11.0 | 11.2 | 11.3 | 11.6 | 11.5 | 11.1 | 10.9 |
| 4 | 24 | 75 | 9.8 | 9.5 | 9.5 | 9.3 | 9.0 | 8.8 | 9.5 | 8.5 |
| 4 | 25 | 75 | 10.2 | 11.2 | 10.9 | 10.8 | 11.4 | 11.1 | 11.2 | 10.9 |
| 4 | 26 | 75 | 9.3 | 8.9 | 8.2 | 8.1 | 7.3 | 8.1 | 7.6 | 8.8 |
| 4 | 27 | 75 | 9.5 | 9.0 | 8.5 | 7.6 | 8.0 | 8.2 | 8.0 | 8.5 |
| 4 | 28 | 75 | 9.2 | 7.4 | 7.0 | 6.3 | 6.0 | 6.4 | 6.5 | 6.5 |
| 4 | 29 | 75 | 10.0 | 8.0 | 6.5 | 7.0 | 6.8 | 6.6 | 7.0 | 7.1 |
| 4 | 30 | 75 | 10.0 | 8.4 | 7.0 | 8.6 | 8.3 | 8.9 | 7.4 | 8.1 |
| 5 | 1 | 75 | 10.0 | 8.0 | 9.2 | 8.8 | 9.2 | 8.8 | 9.2 | 8.8 |
| 5 | 2 | 75 | 10.1 | 10.2 | 10.6 | 11.0 | 11.1 | 10.7 | 10.1 | 9.8 |
| 5 | 3 | 75 | 10.1 | 10.0 | 11.2 | 11.7 | 11.6 | 12.0 | 11.7 | 10.3 |
| 5 | 4 | 75 | 9.5 | 11.0 | 10.7 | 11.2 | 11.0 | 11.3 | 11.0 | 11.0 |
| 5 | 5 | 75 | 10.2 | 9.2 | 9.1 | 8.0 | 9.2 | 8.6 | 8.5 | 8.9 |
| 5 | 6 | 75 | 9.8 | 9.3 | 9.0 | 8.9 | 7.8 | 8.5 | 8.2 | 9.0 |
| 5 | 7 | 75 | 9.9 | 9.2 | 8.7 | 8.2 | 8.5 | 8.7 | 8.2 | 9.0 |
| 5 | 8 | 75 | 10.7 | 8.8 | 9.0 | 8.3 | 8.2 | 8.3 | 8.4 | 8.8 |
| 5 | 9 | 75 | 10.5 | 9.6 | 9.9 | 10.1 | 10.1 | 10.0 | 9.8 | 9.1 |
| 5 | 10 | 75 | 10.5 | 11.0 | 10.5 | 10.5 | 10.8 | 11.2 | 11.0 | 10.0 |
| 5 | 11 | 75 | 10.5 | 14.1 | 13.8 | 13.8 | 13.3 | 13.2 | 13.7 | 13.2 |
| 5 | 12 | 75 | 10.8 | 12.5 | 12.2 | 13.0 | 12.2 | 13.0 | 13.2 | 12.5 |
| 5 | 13 | 75 | 10.8 | 12.5 | 12.0 | 12.5 | 12.7 | 12.4 | 12.8 | 12.0 |
| 5 | 16 | 75 | 11.8 | 17.5 | 17.5 | 18.0 | 18.0 | 17.8 | 17.9 | 17.0 |
| 5 | 19 | 75 | 12.0 | 17.0 | 17.5 | 18.0 | 17.0 | 17.5 | 17.5 | 16.8 |
| 5 | 22 | 75 | 11.2 | 11.2 | 12.0 | 11.2 | 10.0 | 11.2 | 10.6 | 11.2 |
| 5 | 25 | 75 | 11.2 | 10.0 | 11.2 | 11.0 | 10.0 | 11.0 | 11.1 | 10.1 |
| 5 | 28 | 75 | 12.3 | 13.2 | 13.5 | 14.1 | 14.0 | 14.1 | 13.7 | 13.6 |
| 5 | 31 | 75 | 12.4 | 17.0 | 16.9 | 17.3 | 17.5 | 17.2 | 17.2 | 17.2 |
| 6 | 3 | 75 | 12.5 | 16.8 | 17.2 | 17.8 | 18.3 | 17.9 | 16.0 | 17.2 |
| 6 | 6 | 75 | ND | 18.5 | 19.5 | ND | ND | ND | 20.0 | 19.5 |
| 6 | 9 | 75 | 11.5 | 18.0 | 17.5 | 17.5 | 17.1 | 17.4 | 17.5 | 17.0 |
| 6 | 12 | 75 | 13.0 | 18.3 | 18.0 | 18.9 | 18.9 | 18.8 | 18.3 | 18.5 |
| 6 | 15 | 75 | 15.0 | 19.5 | 20.1 | 21.1 | 20.0 | 21.0 | 20.2 | 19.6 |
| 6 | 18 | 75 | 13.4 | 16.9 | 17.8 | 17.1 | 16.6 | 16.5 | 16.8 | 17.4 |
| 6 | 21 | 75 | 14.3 | 16.9 | 17.1 | 16.4 | 16.1 | 16.5 | 16.9 | 17.0 |
| 6 | 24 | 75 | 14.0 | 17.8 | 18.1 | 18.8 | 18.9 | 19.1 | 18.6 | 18.0 |
| 6 | 27 | 75 | 12.0 | 16.0 | 15.0 | 17.0 | 16.0 | 17.0 | 15.0 | 17.0 |
| 6 | 30 | 75 | 13.2 | 18.4 | 18.0 | 19.5 | 19.0 | 19.0 | 18.8 | 17.0 |
| 7 | 3 | 75 | 14.0 | 21.2 | 21.5 | 22.0 | 22.0 | 22.0 | 22.2 | 21.7 |
| 7 | 6 | 75 | 12.0 | 24.5 | 24.0 | 25.0 | 23.0 | 25.0 | 24.5 | 24.0 |
| 7 | 9 | 75 | 15.9 | 23.9 | 24.5 | 24.5 | 25.5 | 25.2 | 25.5 | 25.2 |
| 7 | 12 | 75 | 15.9 | 24.2 | 25.0 | 24.3 | 25.2 | 25.0 | 25.1 | 23.5 |
| 7 | 15 | 75 | 16.0 | 23.5 | 23.9 | 23.4 | 24.3 | 23.5 | 23.5 | 23.9 |
| 7 | 16 | 75 | 14.0 | 21.5 | 22.5 | 22.5 | 23.0 | 23.5 | 23.0 | 23.5 |
| 7 | 17 | 75 | 14.0 | 21.5 | 21.0 | 22.0 | 21.5 | 22.0 | 22.0 | 22.0 |
| 7 | 18 | 75 | 14.0 | 21.5 | 21.5 | 21.5 | 22.0 | 22.0 | 22.0 | 23.0 |

Table B-7. (Continued).

TEMPERATURE (DEGREES CENTIGRADE)

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 19 | 75 | 14.0 | 22.0 | 23.0 | 22.5 | 22.5 | 22.8 | 23.0 | 22.0 |
| 7 | 20 | 75 | 14.0 | 22.0 | 22.5 | 23.5 | 23.0 | 24.0 | 23.0 | 22.5 |
| 7 | 21 | 75 | 15.0 | 21.5 | 22.0 | 22.5 | 24.0 | 23.5 | 23.0 | 23.0 |
| 7 | 22 | 75 | 15.5 | 20.5 | 21.0 | 21.5 | 22.5 | 23.6 | 21.5 | 22.5 |
| 7 | 23 | 75 | 14.5 | 20.2 | 21.8 | 22.3 | 22.1 | 22.3 | 21.0 | 22.0 |
| 7 | 24 | 75 | 17.0 | 26.0 | 25.5 | 24.5 | 24.5 | 26.0 | 23.5 | 24.5 |
| 7 | 25 | 75 | 15.0 | 20.0 | 23.0 | 22.5 | 23.0 | 22.6 | 22.0 | 22.0 |
| 7 | 26 | 75 | 17.0 | 24.0 | 25.0 | 25.0 | 25.0 | 24.7 | 24.0 | 24.0 |
| 7 | 27 | 75 | 16.2 | 23.0 | 23.7 | 24.1 | 24.1 | 25.0 | 24.5 | 23.5 |
| 7 | 28 | 75 | 17.0 | 23.8 | 24.5 | 25.0 | 25.0 | 25.0 | 24.5 | 24.0 |
| 7 | 29 | 75 | 17.0 | 22.5 | 23.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 |
| 7 | 30 | 75 | 16.2 | 20.0 | 20.8 | 21.0 | 21.6 | 21.3 | 21.0 | 22.0 |
| 7 | 31 | 75 | 15.0 | 19.0 | 19.1 | 19.2 | 20.0 | 19.6 | 20.1 | 20.9 |
| 8 | 1 | 75 | 15.5 | 18.0 | 20.0 | 19.0 | 19.9 | 19.0 | 19.0 | 19.5 |
| 8 | 2 | 75 | 16.1 | 18.8 | 20.0 | 19.9 | 20.0 | 20.0 | 19.5 | 20.0 |
| 8 | 3 | 75 | 14.9 | 18.2 | 18.5 | 19.0 | 19.8 | 19.5 | 18.5 | 19.0 |
| 8 | 4 | 75 | 15.2 | 19.0 | 19.9 | 20.0 | 20.2 | 20.2 | 19.2 | 20.0 |
| 8 | 5 | 75 | 16.0 | 20.0 | 20.0 | 20.3 | 21.0 | 20.8 | 20.2 | 20.2 |
| 8 | 6 | 75 | 16.0 | 21.0 | 21.5 | 21.0 | 22.0 | 21.0 | 21.0 | 21.0 |
| 8 | 7 | 75 | 14.9 | 19.6 | 20.2 | 20.5 | 20.6 | 20.2 | 19.8 | 19.8 |
| 8 | 8 | 75 | 13.5 | 18.0 | 18.1 | 18.5 | 18.9 | 18.5 | 18.9 | 19.0 |
| 8 | 9 | 75 | 16.9 | 21.0 | 21.2 | 21.6 | 21.0 | 21.0 | 20.8 | 21.0 |
| 8 | 10 | 75 | 16.0 | 19.5 | 20.0 | 20.0 | 21.0 | 20.0 | 19.0 | 20.0 |
| 8 | 11 | 75 | 16.0 | 20.5 | 21.0 | 21.4 | 21.5 | 21.0 | 20.0 | 20.5 |
| 8 | 12 | 75 | 15.0 | 19.6 | 20.4 | 20.5 | 21.5 | 20.5 | 19.9 | 20.2 |
| 8 | 13 | 75 | 16.0 | 20.5 | 21.0 | 21.0 | 21.0 | 20.6 | 20.4 | 20.4 |
| 8 | 14 | 75 | 16.0 | 20.0 | 20.5 | 21.0 | 21.0 | 20.0 | 20.0 | 20.2 |
| 8 | 17 | 75 | 15.9 | 19.7 | 20.1 | 20.2 | 21.2 | 20.2 | 20.0 | 20.0 |
| 8 | 20 | 75 | 16.0 | 18.5 | 18.8 | 18.0 | 19.0 | 18.0 | 18.6 | 19.0 |
| 8 | 21 | 75 | 17.0 | 19.5 | 19.5 | 19.3 | 20.0 | 20.0 | 19.0 | 19.0 |
| 8 | 26 | 75 | 16.0 | 18.0 | 17.0 | 17.0 | 18.0 | 17.0 | 17.2 | 17.0 |
| 8 | 29 | 75 | 16.2 | 17.0 | 17.2 | 17.0 | 17.0 | 16.5 | 16.1 | 17.0 |
| 9 | 1 | 75 | 16.5 | 17.4 | 18.0 | 17.5 | 18.0 | 17.0 | 16.8 | 16.0 |
| 9 | 4 | 75 | 16.0 | 16.5 | 17.0 | 17.0 | 17.3 | 16.4 | 16.0 | 16.0 |
| 9 | 7 | 75 | 16.8 | 15.5 | 16.0 | 16.1 | 16.0 | 15.2 | 14.9 | 14.0 |
| 9 | 10 | 75 | 16.5 | 17.5 | 19.0 | 19.0 | 19.5 | 19.5 | 19.0 | 17.9 |
| 9 | 13 | 75 | 17.0 | 17.5 | 17.5 | 17.5 | 17.5 | 17.0 | 17.0 | 16.0 |
| 9 | 16 | 75 | 17.0 | 18.5 | 18.0 | 18.0 | 18.5 | 18.0 | 17.0 | 17.0 |
| 9 | 19 | 75 | 16.0 | 15.0 | 15.1 | 14.4 | 15.0 | 15.0 | 14.5 | 14.0 |
| 9 | 22 | 75 | 16.0 | 14.0 | 14.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 9 | 25 | 75 | 17.0 | 14.5 | 14.1 | 14.0 | 14.0 | 13.5 | 13.0 | 12.5 |
| 9 | 28 | 75 | 16.0 | 13.4 | 13.0 | 13.0 | 13.0 | 12.8 | 12.5 | 12.0 |
| 10 | 1 | 75 | 15.8 | 13.5 | 13.0 | 13.0 | 13.0 | 13.0 | 12.0 | 12.0 |
| 10 | 4 | 75 | 17.0 | 14.8 | 14.8 | 14.5 | 15.0 | 14.0 | 13.4 | 13.8 |
| 10 | 7 | 75 | 16.0 | 14.0 | 14.0 | 14.0 | 13.5 | 13.5 | 13.0 | 13.0 |
| 10 | 10 | 75 | 16.0 | 12.0 | 11.0 | 11.0 | 11.0 | 11.0 | 10.9 | 11.5 |
| 10 | 13 | 75 | 14.0 | 10.2 | 10.0 | 9.5 | 9.5 | 9.5 | 10.0 | 10.0 |
| 10 | 16 | 75 | 13.0 | 10.5 | 10.5 | 10.0 | 10.0 | 9.9 | 9.9 | 9.2 |
| 10 | 20 | 75 | 15.0 | 10.0 | 10.0 | 10.0 | 10.5 | 10.0 | 10.0 | 9.1 |
| 10 | 21 | 75 | 15.0 | 10.5 | 10.0 | 10.0 | 10.8 | 10.3 | 10.0 | 9.5 |
| 10 | 22 | 75 | 14.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 10 | 23 | 75 | 14.0 | 7.5 | 7.0 | 6.5 | 6.5 | 7.0 | 7.0 | 7.0 |
| 10 | 24 | 75 | ND | 5.9 | 6.0 | 5.0 | 5.5 | 5.5 | 6.0 | 6.0 |
| 10 | 25 | 75 | 13.0 | 6.0 | 6.0 | 4.5 | 5.0 | 5.0 | 5.5 | 5.0 |
| 10 | 26 | 75 | 14.0 | 6.8 | 6.8 | 6.0 | 6.0 | 6.0 | 7.0 | 6.0 |
| 10 | 27 | 75 | ND | ND | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| 10 | 28 | 75 | 13.5 | 5.0 | 5.0 | 4.5 | 4.0 | 2.5 | 4.0 | 3.0 |
| 10 | 29 | 75 | 13.0 | 4.5 | 4.5 | 4.5 | 4.0 | 3.5 | 4.0 | 5.0 |
| 10 | 30 | 75 | 14.0 | 6.0 | 5.8 | 5.6 | 5.1 | 5.2 | 5.5 | 6.0 |
| 10 | 31 | 75 | 14.0 | 5.5 | 5.5 | 6.0 | 5.5 | 5.5 | 6.5 | 6.0 |
| 11 | 1 | 75 | 14.0 | 6.0 | 6.0 | 5.4 | 5.0 | 6.0 | 5.5 | 5.5 |
| 11 | 2 | 75 | 7.0 | 6.0 | 6.5 | 6.5 | 6.0 | 6.0 | 6.0 | 6.0 |
| 11 | 3 | 75 | 13.5 | 6.0 | 5.5 | 5.3 | 6.0 | 5.0 | 6.0 | 6.0 |
| 11 | 4 | 75 | 12.5 | 6.0 | 5.6 | 5.7 | 5.8 | 5.6 | 5.5 | 5.2 |
| 11 | 5 | 75 | 11.8 | 5.5 | 5.1 | 5.1 | 5.0 | 5.4 | 5.2 | 5.0 |
| 11 | 6 | 75 | 13.8 | 6.1 | 5.5 | 6.0 | 5.8 | 5.6 | 5.5 | 5.2 |
| 11 | 7 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 11 | 8 | 75 | 13.5 | ND | ND | ND | 5.7 | 6.0 | 5.8 | 5.5 |
| 11 | 9 | 75 | 11.0 | 4.8 | 4.2 | 4.1 | 4.3 | 4.3 | 4.3 | 4.1 |
| 11 | 10 | 75 | 13.5 | 6.0 | 4.8 | 4.5 | 4.5 | 4.8 | 5.1 | 5.0 |
| 11 | 11 | 75 | 12.5 | 4.0 | 3.5 | 3.0 | 1.8 | 3.0 | 3.6 | 3.5 |
| 11 | 12 | 75 | 11.2 | 3.0 | 2.0 | 2.0 | 1.0 | 1.0 | 2.3 | 2.5 |
| 11 | 13 | 75 | 10.5 | 2.5 | 2.9 | 2.5 | 2.0 | 0.2 | 1.5 | 2.9 |
| 11 | 14 | 75 | 10.5 | 2.5 | 2.0 | 2.5 | 2.5 | 1.5 | 2.5 | 1.9 |
| 11 | 15 | 75 | ND | 1.2 | 1.2 | 1.0 | 1.2 | 1.0 | 2.0 | 2.4 |
| 11 | 16 | 75 | 10.0 | 3.0 | 2.5 | 4.0 | 3.0 | 2.0 | 3.0 | 2.5 |
| 11 | 17 | 75 | 10.5 | 3.0 | 2.5 | 2.5 | 3.0 | 3.0 | 3.0 | 3.0 |
| 11 | 18 | 75 | 10.2 | 1.8 | 1.0 | 0.5 | 0.5 | 0.7 | 1.0 | 2.0 |
| 11 | 19 | 75 | 12.0 | 2.0 | 1.0 | 0.1 | 0.1 | 0.5 | 1.5 | 1.5 |
| 11 | 20 | 75 | 11.0 | -0.1 | -0.2 | -0.3 | -0.4 | -0.4 | -0.4 | 0.0 |
| 11 | 23 | 75 | 10.5 | 1.0 | 1.0 | 1.2 | 2.7 | 1.5 | 2.7 | 3.0 |
| 11 | 26 | 75 | 10.0 | 1.0 | 1.0 | 0.0 | 0.0 | ND | 1.0 | 0.0 |
| 12 | 2 | 75 | 11.0 | 2.4 | 2.0 | 2.2 | 0.9 | 1.6 | 1.0 | 1.0 |
| 12 | 5 | 75 | 11.0 | 3.0 | 3.0 | 3.0 | 3.0 | 2.0 | 3.0 | 2.0 |
| 12 | 8 | 75 | 10.0 | 3.1 | 2.5 | 3.7 | 2.6 | 2.0 | 2.9 | 2.1 |
| 12 | 11 | 75 | 8.0 | 2.0 | 1.9 | 1.9 | 2.0 | 0.0 | -1.0 | 1.1 |
| 12 | 14 | 75 | 5.0 | -1.0 | 1.0 | 0.6 | 1.0 | 0.0 | -1.0 | -1.0 |
| 12 | 17 | 75 | 7.0 | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.5 | 0.0 |
| 12 | 20 | 75 | 9.2 | 3.0 | 3.1 | 2.9 | 3.2 | 2.8 | 3.0 | 3.0 |
| 12 | 23 | 75 | 11.8 | 3.9 | 3.2 | 3.1 | 2.5 | 3.0 | 3.0 | 2.0 |
| 12 | 31 | 75 | 8.0 | 2.5 | 2.6 | 2.0 | 1.5 | 1.5 | 2.5 | 3.0 |
| 1 | 3 | 76 | 7.0 | 2.0 | 2.0 | 2.0 | 1.2 | 1.8 | 2.0 | 1.0 |
| 1 | 6 | 76 | 8.0 | 2.0 | 2.0 | 2.0 | 2.4 | 2.0 | 2.0 | 2.0 |
| 1 | 9 | 76 | 7.5 | 2.0 | 1.8 | 1.0 | 1.0 | 1.0 | 2.0 | 3.0 |
| 1 | 12 | 76 | 9.0 | 2.5 | 2.5 | 2.6 | 2.6 | 2.1 | 3.0 | 4.0 |
| 1 | 15 | 76 | ND | ND | ND | ND | ND | ND | ND | ND |
| 1 | 18 | 76 | ND | ND | ND | ND | ND | ND | ND | ND |
| 1 | 21 | 76 | 8.3 | 2.0 | 1.0 | 1.5 | 1.2 | 0.5 | 1.0 | 1.0 |
| 1 | 24 | 76 | 8.0 | 1.2 | 0.7 | 0.6 | 0.8 | 0.5 | 0.8 | 0.4 |
| 1 | 27 | 76 | 8.3 | 1.6 | 1.0 | 1.2 | 1.1 | 1.1 | 1.0 | 1.2 |
| 1 | 30 | 76 | 7.6 | 0.8 | 0.1 | 1.0 | 0.2 | 0.6 | 0.4 | 0.5 |

Table B-8. The pH value for the raw sewage influent and the effluent from each pond in the Corinne Waste Stabilization Lagoon System.

PH

NS = NO SAMPLE, ND = NO DATA, A = COMPOSITE SAMPLE, B = IN LAB ANALYSIS

| NO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23 | 75 | 8.30 | 9.15 | 9.35 | 9.55 | 9.70 | 9.70 | 9.12 | 9.10 |
| 1 | 24 | 75 | 8.45 | 9.36 | 9.60 | 9.38 | 9.40 | 9.65 | 9.20 | 8.95 |
| 1 | 25 | 75 | 9.07 | 10.03 | 10.15 | 9.79 | 10.11 | 9.76 | 9.62 | 9.21 |
| 1 | 26 | 75 | 8.10 | 8.93 | 9.04 | 8.98 | 9.17 | 9.06 | 8.97 | 9.02 |
| 1 | 27 | 75 | | | 9.55 | 9.20 | 9.62 | 9.35 | 9.51 | 8.99 |
| 1 | 28 | 75 | 8.30 | 9.40 | 9.16 | 9.10 | 9.55 | 9.12 | 9.33 | 8.78 |
| 1 | 29 | 75 | 8.72 | 9.25 | 9.55 | 9.65 | 9.25 | 9.05 | 9.00 | 8.90 |
| 1 | 30 | 75 | 8.50 | 9.20 | 9.30 | 9.25 | 9.10 | 8.94 | 8.90 | 8.84 |
| 1 | 31 | 75 | 8.95 | 9.10 | 9.16 | 9.32 | 9.29 | 9.20 | 9.10 | 9.10 |
| 2 | 1 | 75 | 8.93 | 8.90 | 9.19 | 9.42 | 9.46 | 9.25 | 9.19 | 9.08 |
| 2 | 2 | 75 | 7.80 | 8.75 | 8.90 | 8.05 | 8.02 | 8.90 | 8.90 | 8.95 |
| 2 | 3 | 75 | 9.05 | 8.85 | 8.80 | 9.06 | 9.11 | 8.90 | 8.91 | 9.06 |
| 2 | 4 | 75 | | | 10.90 | 9.60 | 9.90 | 9.70 | 9.19 | 9.09 |
| 2 | 5 | 75 | 8.20 | 8.25 | 8.70 | 9.20 | 9.20 | 9.23 | 9.10 | 9.08 |
| 2 | 6 | 75 | 8.30 | 8.99 | 8.95 | 9.00 | 9.20 | 9.20 | 9.05 | 9.10 |
| 2 | 7 | 75 | 8.20 | 9.20 | 9.20 | 9.20 | 9.33 | 9.20 | 9.08 | 8.99 |
| 2 | 8 | 75 | 9.16 | 9.14 | 8.65 | 9.16 | 9.17 | 9.08 | 9.18 | 9.02 |
| 2 | 9 | 75 | 8.40 | 8.90 | 9.20 | 8.90 | 9.10 | 8.87 | 8.79 | 9.11 |
| 2 | 10 | 75 | 8.70 | 9.00 | 8.95 | 8.89 | 9.35 | 9.25 | 9.10 | 9.07 |
| 2 | 11 | 75 | 8.40 | 9.15 | 9.10 | 9.00 | 9.20 | 9.25 | 9.15 | 9.17 |
| 2 | 12 | 75 | 8.10 | 9.10 | 9.35 | 9.31 | 9.30 | 9.20 | 9.05 | 9.10 |
| 2 | 13 | 75 | 8.15 | 8.70 | 9.08 | 9.05 | 9.10 | 9.00 | 9.05 | 9.10 |
| 2 | 14 | 75 | 9.30 | 8.55 | 9.35 | 9.12 | 9.12 | 9.22 | 9.27 | 9.20 |
| 2 | 15 | 75 | 8.10 | 9.09 | 9.20 | 9.30 | 9.36 | 9.25 | 9.20 | 9.00 |
| 2 | 16 | 75 | 8.70 | 9.10 | 9.18 | 9.39 | 9.50 | 9.40 | 9.26 | 9.10 |
| 2 | 17 | 75 | 8.30 | 9.30 | 9.40 | 9.40 | 9.40 | 9.40 | 9.35 | 9.10 |
| 2 | 18 | 75 | 8.05 | 8.80 | 8.90 | 9.05 | 9.10 | 9.20 | 8.95 | 9.15 |
| 2 | 19 | 75 | 8.20 | 9.20 | 9.35 | 9.50 | 9.40 | 9.32 | 9.16 | 9.11 |
| 2 | 20 | 75 | 8.30 | 9.05 | 9.20 | 9.25 | 9.25 | 9.20 | 9.12 | 9.15 |
| 2 | 21 | 75 | 8.45 | 9.14 | 9.31 | 9.41 | 9.38 | 9.32 | 9.16 | 9.10 |
| 2 | 22 | 75 | 8.30 | 8.80 | 9.20 | 9.35 | 9.40 | 9.25 | 9.25 | 9.30 |
| 2 | 27 | 75 | 8.00 | 7.60 | 9.20 | 9.30 | 9.10 | 9.15 | 9.22 | 9.10 |
| 2 | 28 | 75 | 7.55 | 8.30 | 9.21 | 9.21 | 9.10 | 9.21 | 9.20 | 9.16 |
| 3 | 3 | 75 | | | 9.15 | 9.15 | | | 9.18 | 9.12 |
| 3 | 6 | 75 | 8.32 | 8.70 | 8.96 | 9.07 | 9.29 | 9.60 | 9.37 | 9.29 |
| 3 | 8 | 75 | 8.30 | 9.20 | 9.00 | 9.30 | 9.41 | 9.31 | 9.26 | 9.01 |
| 3 | 12 | 75 | 8.60 | 9.05 | 9.05 | 9.32 | 9.20 | 9.30 | 9.20 | 9.10 |
| 3 | 15 | 75 | 8.40 | 8.75 | 9.10 | 9.21 | 9.12 | 9.65 | 9.17 | 9.20 |
| 3 | 18 | 75 | 8.10 | 8.80 | 8.99 | 9.10 | 8.90 | 9.21 | 9.30 | 9.10 |
| 3 | 21 | 75 | 8.31 | 8.56 | 9.03 | 8.90 | 8.85 | 9.20 | 8.90 | 9.03 |
| 3 | 24 | 75 | 7.90 | 8.70 | 9.00 | 9.03 | 9.00 | 9.48 | 9.05 | 9.22 |
| 3 | 29 | 75 | 8.40 | 8.35 | 8.70 | 9.00 | 8.98 | 9.35 | 9.30 | 9.15 |
| 3 | 31 | 75 | 8.40 | 7.31 | 8.89 | 8.86 | 8.89 | 9.11 | 9.21 | 9.29 |
| 4 | 2 | 75 | 8.20 | 8.51 | 8.85 | 9.04 | 9.09 | 9.20 | 9.19 | 9.00 |
| 4 | 5 | 75 | 8.90 | 8.50 | 8.70 | 8.91 | 9.20 | 9.20 | 9.00 | 9.10 |
| 4 | 8 | 75 | 8.80 | 8.71 | 9.02 | 9.20 | 9.10 | 9.22 | 9.18 | 9.15 |
| 4 | 11 | 75 | 8.75 | 9.00 | 9.20 | 9.20 | 9.26 | 9.29 | 9.29 | 9.29 |
| 4 | 14 | 75 | 8.69 | 9.20 | 9.30 | 9.30 | 9.30 | 9.65 | 9.26 | 9.26 |
| 4 | 15 | 75 | 8.80 | 9.20 | 9.34 | 9.51 | 9.50 | 9.52 | 9.32 | 9.20 |
| 4 | 16 | 75 | 8.55 | 9.21 | 9.20 | 9.45 | 9.47 | 9.50 | 9.33 | 9.31 |
| 4 | 17 | 75 | 8.00 | 9.20 | 9.43 | 9.66 | 9.50 | 9.68 | 9.53 | 9.30 |
| 4 | 18 | 75 | 8.71 | 9.29 | 9.40 | 9.70 | 9.55 | 9.69 | 9.51 | 9.40 |
| 4 | 19 | 75 | 9.00 | 9.35 | 9.49 | 9.69 | 9.65 | 9.70 | 9.59 | 9.69 |
| 4 | 20 | 75 | 8.89 | 9.32 | 9.50 | 9.59 | 9.63 | 9.60 | 9.60 | 9.67 |
| 4 | 21 | 75 | 8.00 | 9.37 | 9.40 | 9.59 | 9.60 | 9.60 | 9.59 | 9.69 |
| 4 | 22 | 75 | 8.85 | 9.40 | 9.51 | 9.60 | 9.60 | 9.70 | 9.65 | 9.45 |
| 4 | 23 | 75 | 8.79 | 9.30 | 9.40 | 9.65 | 9.73 | 9.72 | 9.67 | 9.45 |
| 4 | 24 | 75 | 8.55 | 9.29 | 9.42 | 9.55 | 9.61 | 9.61 | 9.58 | 9.41 |
| 4 | 25 | 75 | 8.80 | 9.30 | 9.45 | 9.59 | 9.10 | 9.68 | 9.71 | 9.32 |
| 4 | 26 | 75 | 8.70 | 9.29 | 9.61 | 9.71 | 9.73 | 9.71 | 9.76 | 9.39 |
| 4 | 27 | 75 | 8.80 | 9.40 | 9.60 | 9.69 | 9.71 | 9.72 | 9.72 | 9.55 |
| 4 | 28 | 75 | 8.60 | 9.40 | 9.31 | 9.69 | 9.77 | 9.79 | 9.69 | 9.34 |
| 4 | 29 | 75 | 8.51 | 9.32 | 9.55 | 9.62 | 9.62 | 9.67 | 9.50 | 9.52 |
| 4 | 30 | 75 | 8.89 | 9.28 | 9.63 | 9.80 | 9.76 | 9.80 | 9.85 | 9.39 |
| 5 | 1 | 75 | 8.50 | 9.45 | 9.60 | 9.69 | 9.70 | 9.69 | 9.69 | 9.51 |
| 5 | 2 | 75 | 8.02 | 9.57 | 9.86 | 9.90 | 9.87 | 9.83 | 9.81 | 9.32 |
| 5 | 3 | 75 | 8.89 | 9.30 | 9.79 | 9.84 | 9.89 | 9.95 | 9.79 | 9.62 |
| 5 | 4 | 75 | 7.91 | 9.15 | 9.45 | 9.65 | 9.69 | 9.55 | 9.53 | 9.29 |
| 5 | 5 | 75 | 8.40 | 9.49 | 9.33 | 9.69 | 9.70 | 9.68 | 9.55 | 9.40 |
| 5 | 6 | 75 | 8.43 | 9.30 | 9.69 | 9.65 | 9.85 | 9.59 | 9.69 | 9.55 |
| 5 | 7 | 75 | 8.69 | 9.32 | 9.37 | 9.83 | 9.80 | 9.65 | 9.60 | 9.41 |
| 5 | 8 | 75 | 8.25 | 9.30 | 9.37 | 9.77 | 9.60 | 9.80 | 9.51 | 9.37 |
| 5 | 9 | 75 | 8.59 | 9.35 | 9.69 | 9.81 | 9.82 | 9.69 | 9.66 | 9.43 |
| 5 | 10 | 75 | 8.59 | 9.52 | 9.75 | 9.90 | 9.80 | 9.90 | 9.69 | 9.50 |
| 5 | 11 | 75 | 8.41 | 9.72 | 9.80 | 9.80 | 9.80 | 9.72 | 9.62 | 9.40 |
| 5 | 12 | 75 | 8.49 | 9.35 | 9.60 | 9.62 | 9.59 | 9.68 | 9.52 | 9.35 |
| 5 | 13 | 75 | 8.40 | 9.40 | 9.63 | 9.71 | 9.72 | 9.70 | 9.57 | 9.47 |
| 5 | 16 | 75 | 8.60 | 9.51 | 9.80 | 9.80 | 9.85 | 9.73 | 9.69 | 9.60 |
| 5 | 19 | 75 | 8.20 | 9.30 | 9.42 | 9.50 | 9.55 | 9.71 | 9.60 | 9.65 |
| 5 | 22 | 75 | 8.62 | 9.41 | 9.95 | 9.65 | 9.45 | 9.60 | 9.65 | 9.60 |
| 5 | 25 | 75 | 8.61 | 9.30 | 9.41 | 9.49 | 9.70 | 9.52 | 9.33 | 9.00 |
| 5 | 31 | 75 | 9.3 | 13.1 | 10.3 | 9.0 | 10.5 | 9.9 | 9.9 | 9.9 |
| 5 | 28 | 75 | 8.40 | 9.51 | 9.60 | 9.35 | 9.30 | 9.10 | 9.50 | 9.40 |
| 6 | 3 | 75 | 8.02 | 9.71 | 9.70 | 9.62 | 9.40 | 9.40 | 9.50 | 9.30 |
| 6 | 6 | 75 | 8.70 | 9.70 | 9.70 | 9.40 | 9.40 | 9.30 | 9.44 | 9.42 |
| 6 | 9 | 75 | 8.15 | 9.10 | 9.54 | 9.60 | 9.21 | 9.19 | 9.25 | 9.30 |
| 6 | 12 | 75 | 8.49 | 9.26 | 9.67 | 9.69 | 9.32 | 9.22 | 9.21 | 9.29 |
| 6 | 15 | 75 | 9.10 | 9.67 | 9.72 | 9.64 | 9.61 | 9.49 | 9.20 | 9.29 |
| 6 | 18 | 75 | 9.33 | 9.31 | 9.60 | 9.32 | 9.67 | 9.47 | 9.20 | 9.30 |
| 6 | 21 | 75 | 7.800 | 9.130 | 9.500 | 9.330 | 9.200 | 9.030 | 8.970 | 9.050 |
| 6 | 24 | 75 | 8.30 | 9.60 | 9.75 | 9.51 | 9.45 | 9.10 | 9.25 | 9.20 |
| 6 | 27 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 6 | 30 | 75 | 8.30 | 9.80 | 9.60 | 9.45 | 9.19 | 9.10 | 9.00 | 9.09 |
| 7 | 3 | 75 | 8.35 | 9.65 | 9.60 | 9.45 | 9.10 | 9.26 | 9.22 | 9.25 |
| 7 | 6 | 75 | 8.65 | 9.7 | 9.7 | 9.5 | 9.4 | 9.2 | 9.2 | 9.1 |
| 7 | 9 | 75 | 8.29 | 9.49 | 9.59 | 9.40 | 9.30 | 9.19 | 9.20 | 9.07 |
| 7 | 12 | 75 | 8.25 | 9.51 | 9.60 | 9.40 | 9.29 | 9.19 | 9.29 | 9.25 |
| 7 | 15 | 75 | 8.090 | 9.390 | 9.330 | 9.300 | 9.050 | 9.050 | 9.200 | 9.130 |
| 7 | 16 | 75 | 8.724 | 9.104 | 9.424 | 9.424 | 9.214 | 9.134 | 9.404 | 9.214 |
| 7 | 17 | 75 | 7.900 | 9.270 | 9.520 | 9.400 | 9.290 | 9.270 | 9.450 | 9.370 |
| 7 | 18 | 75 | 7.900 | 9.310 | 9.490 | 9.400 | 9.290 | 9.270 | 9.450 | 9.400 |

Table B-8. (Continued).

PH

NS = NO SAMPLE, ND = NO DATA, A = COMPOSITE SAMPLE, B = IN LAB ANALYSIS

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 19 | 75 | 7.810 | 9.600 | NS | 9.300 | 9.279 | 9.300 | 9.500 | 9.400 |
| 7 | 20 | 75 | 7.960 | 9.500 | 9.620 | 9.450 | 9.370 | 9.460 | 9.640 | 9.500 |
| 7 | 21 | 75 | 7.940 | 9.100 | 9.600 | 9.400 | 9.320 | 9.460 | 9.590 | 9.490 |
| 7 | 22 | 75 | 7.850 | 9.275 | 9.550 | 9.430 | 9.310 | 9.500 | 9.730 | 9.500 |
| 7 | 23 | 75 | 7.910 | 9.210 | 9.500 | 9.410 | 9.210 | 9.500 | 9.830 | 9.500 |
| 7 | 24 | 75 | 8.44 | 9.41 | 9.50 | 9.65 | 9.31 | 9.65 | 9.90 | 9.65 |
| 7 | 25 | 75 | 8.90 | 9.03 | 9.59 | 9.51 | 9.45 | 9.60 | 9.70 | 9.49 |
| 7 | 26 | 75 | 8.10 | 9.30 | 9.51 | 9.59 | 9.40 | 9.57 | 9.71 | 9.20 |
| 7 | 27 | 75 | 8.10 | 9.70 | 9.62 | 9.49 | 9.40 | 9.59 | 9.77 | 9.40 |
| 7 | 28 | 75 | 8.40 | 9.60 | 9.40 | 9.40 | 9.50 | 9.60 | 9.90 | 9.80 |
| 7 | 29 | 75 | 8.26 | 9.30 | 9.45 | 9.35 | 9.39 | 9.50 | 9.70 | 9.80 |
| 7 | 30 | 75 | 8.00 | 9.19 | 9.26 | 9.22 | 9.32 | 9.41 | 9.41 | 9.35 |
| 7 | 31 | 75 | 8.50 | 9.10 | 9.31 | 9.36 | 9.35 | 9.50 | 9.60 | 9.55 |
| 8 | 1 | 75 | 9.30 | 9.39 | 9.41 | 9.42 | 9.41 | 9.34 | 9.61 | 9.60 |
| 8 | 2 | 75 | 8.30 | 9.40 | 9.43 | 9.40 | 9.35 | 9.45 | 9.50 | 9.50 |
| 8 | 3 | 75 | 9.05 | 9.70 | 9.01 | 9.01 | 9.61 | 9.49 | 9.60 | 9.45 |
| 8 | 4 | 75 | 8.50 | 9.45 | 9.51 | 9.45 | 9.40 | 9.50 | 9.61 | 9.50 |
| 8 | 5 | 75 | 8.60 | 9.45 | 9.30 | 9.63 | 9.60 | 9.65 | 9.80 | 9.70 |
| 8 | 6 | 75 | 8.34 | 9.63 | 9.55 | 9.50 | 9.40 | 9.40 | 9.70 | 9.60 |
| 8 | 7 | 75 | 9.10 | 9.65 | 9.79 | 9.29 | 9.29 | 9.30 | 9.70 | 9.37 |
| 8 | 8 | 75 | 9.22 | 9.30 | 9.32 | 9.19 | 9.30 | 9.46 | 9.40 | 9.71 |
| 8 | 9 | 75 | 7.65 | ND | ND | ND | ND | ND | ND | 9.9 |
| 8 | 10 | 75 | 7.700 | 9.610 | 9.600 | 9.720 | 9.730 | 9.970 | 10.190 | 10.150 |
| 8 | 11 | 75 | 7.700 | 9.540 | 9.560 | 9.600 | 9.740 | 9.995 | 10.100 | 10.030 |
| 8 | 12 | 75 | 7.870 | 9.130 | 9.560 | 9.660 | 9.720 | 9.970 | 10.090 | 10.200 |
| 8 | 13 | 75 | 8.20 | 9.40 | 9.60 | 9.65 | 9.70 | 10.04 | 10.10 | 10.25 |
| 8 | 16 | 75 | ND | 9.49 | 9.51 | 9.59 | 9.60 | 9.95 | 10.10 | 10.25 |
| 8 | 17 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 8 | 20 | 75 | 8.02 | 9.29 | 9.65 | 9.61 | 9.69 | 9.85 | 10.11 | 10.18 |
| 8 | 23 | 75 | 8.32 | 9.30 | 9.63 | 9.60 | 9.65 | 10.00 | 10.05 | 10.15 |
| 8 | 26 | 75 | 8.10 | 9.50 | 9.65 | 9.70 | 9.59 | 9.69 | 9.90 | 10.00 |
| 8 | 29 | 75 | 8.45 | 9.40 | 9.65 | 9.80 | 9.80 | 9.75 | 10.10 | 10.10 |
| 9 | 3 | 75 | 7.80 | 9.50 | 9.45 | 9.50 | 9.45 | 9.61 | 10.00 | 10.25 |
| 9 | 6 | 75 | 8.40 | 9.44 | 9.65 | 9.60 | 9.70 | 9.80 | 9.90 | 10.05 |
| 9 | 7 | 75 | 8.70 | 9.36 | 9.30 | 9.63 | 9.48 | 9.92 | 9.69 | 10.11 |
| 9 | 10 | 75 | 7.96 | 9.20 | 9.50 | 9.63 | 9.60 | 9.75 | 10.09 | 10.10 |
| 9 | 13 | 75 | 8.50 | 9.10 | 9.40 | 9.55 | 9.65 | 9.80 | 10.05 | 10.20 |
| 9 | 16 | 75 | 8.40 | 9.60 | 9.59 | 9.61 | 9.65 | 9.85 | 10.10 | 10.20 |
| 9 | 19 | 75 | 8.50 | 9.44 | 9.55 | 9.60 | 9.69 | 9.89 | 10.11 | 10.15 |
| 9 | 22 | 75 | 8.40 | 9.30 | 9.45 | 9.60 | 9.60 | 9.80 | 10.10 | 10.20 |
| 9 | 25 | 75 | 8.00 | 9.60 | 9.69 | 9.66 | 9.45 | 9.60 | 10.10 | 9.80 |
| 9 | 28 | 75 | 8.65 | 9.40 | 9.55 | 9.50 | 9.50 | 9.65 | 9.90 | 10.15 |
| 10 | 1 | 75 | 8.61 | 9.65 | 9.70 | 9.80 | 9.70 | 9.90 | 10.10 | 10.20 |
| 10 | 6 | 75 | 8.45 | 9.54 | 9.60 | 9.70 | 9.60 | 9.75 | 9.90 | 10.15 |
| 10 | 7 | 75 | 8.40 | 9.60 | 9.60 | 9.70 | 9.61 | 9.90 | 10.00 | 10.20 |
| 10 | 10 | 75 | 8.29 | 9.56 | 9.70 | 9.60 | 9.65 | 9.75 | 9.90 | 10.29 |
| 10 | 13 | 75 | 8.01 | 8.85 | 8.80 | 8.75 | 8.07 | 8.95 | 9.00 | 9.23 |
| 10 | 16 | 75 | 8.54 | 9.45 | 9.50 | 9.50 | 9.50 | 9.50 | 9.70 | 9.90 |
| 10 | 20 | 75 | 8.42 | 9.40 | 9.70 | 9.65 | 9.61 | 9.60 | 9.70 | 10.00 |
| 10 | 21 | 75 | ND | 9.04 | 9.90 | 9.90 | 9.90 | 9.89 | 10.00 | 10.20 |
| 10 | 22 | 75 | 8.64 | 9.40 | 9.60 | 9.65 | 9.60 | 9.50 | 10.00 | 10.10 |
| 10 | 23 | 75 | 8.27 | 9.30 | 9.45 | 9.40 | 9.49 | 9.72 | 9.72 | 9.95 |
| 10 | 24 | 75 | ND | ND | ND | ND | ND | ND | 9.80 | 10.00 |
| 10 | 25 | 75 | ND | ND | ND | ND | ND | 9.95 | 9.80 | 10.15 |
| 10 | 26 | 75 | 8.35 | 9.40 | 9.38 | 9.40 | 9.30 | 9.33 | 9.48 | 9.65 |
| 10 | 27 | 75 | 7.62 | 9.39 | 9.61 | 9.65 | 9.60 | 9.60 | 9.86 | 10.05 |
| 10 | 28 | 75 | ND | ND | ND | ND | ND | ND | 9.74 | 9.65 |
| 10 | 29 | 75 | 8.03 | 9.33 | 9.51 | 9.55 | 9.63 | 9.65 | 9.60 | 9.85 |
| 10 | 30 | 75 | 7.90 | 9.40 | 9.46 | 9.50 | 9.40 | 9.63 | 9.50 | 9.80 |
| 10 | 31 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 11 | 1 | 75 | 8.30 | 9.54 | 9.64 | 9.64 | 9.54 | 9.50 | 9.60 | 9.75 |
| 11 | 2 | 75 | 8.22 | 9.53 | 9.60 | 9.63 | 9.52 | 9.43 | 9.49 | 9.69 |
| 11 | 3 | 75 | 8.40 | 9.58 | 9.62 | 9.60 | 9.58 | 9.50 | 9.55 | 9.65 |
| 11 | 4 | 75 | 8.14 | 9.32 | 9.42 | 9.63 | 9.36 | 9.28 | 9.31 | 9.40 |
| 11 | 5 | 75 | 8.60 | 9.70 | 9.81 | 9.86 | 9.70 | 9.71 | 9.73 | 9.81 |
| 11 | 6 | 75 | 8.45 | 9.90 | 9.72 | 9.70 | 9.65 | 9.56 | 9.53 | 9.67 |
| 11 | 7 | 75 | 8.20 | 9.40 | 9.55 | 9.67 | 9.60 | 9.47 | 9.60 | 9.84 |
| 11 | 8 | 75 | 8.60 | 9.76 | 9.87 | 9.84 | 9.70 | 9.69 | 9.60 | 9.80 |
| 11 | 9 | 75 | 8.55 | 9.73 | 9.80 | 9.80 | 9.80 | 9.82 | 9.66 | 9.50 |
| 11 | 10 | 75 | 8.45 | 9.61 | 9.60 | 9.79 | 9.70 | 9.63 | 9.53 | 9.67 |
| 11 | 11 | 75 | 8.55 | 9.70 | 9.90 | 9.95 | 9.81 | 9.76 | 9.70 | 9.80 |
| 11 | 12 | 75 | 8.42 | 9.61 | 9.65 | 9.70 | 9.61 | 9.41 | 9.40 | 9.53 |
| 11 | 13 | 75 | 8.40 | 9.65 | 9.75 | 9.75 | 9.65 | 9.52 | 9.50 | 9.61 |
| 11 | 14 | 75 | 8.56 | 9.72 | 9.85 | 9.80 | 9.77 | 9.60 | 9.60 | 9.67 |
| 11 | 15 | 75 | 8.49 | 9.70 | 9.80 | 9.83 | 9.77 | 9.63 | 9.50 | 9.46 |
| 11 | 16 | 75 | 8.60 | 9.62 | 9.80 | 9.80 | 9.69 | 9.57 | 9.53 | 9.62 |
| 11 | 17 | 75 | 8.52 | 9.60 | 9.61 | 9.70 | 9.67 | 9.52 | 9.53 | 9.81 |
| 11 | 18 | 75 | 8.56 | 9.71 | 9.81 | 9.86 | 9.71 | 9.61 | 9.60 | 9.56 |
| 11 | 19 | 75 | 8.55 | 9.63 | 9.76 | 9.80 | 9.68 | 9.53 | 9.55 | 9.70 |
| 11 | 20 | 75 | 8.55 | 9.60 | 9.79 | 9.85 | 9.72 | 9.56 | 9.55 | 9.63 |
| 11 | 23 | 75 | 8.23 | 9.50 | 9.66 | 9.70 | 9.57 | 9.43 | 9.42 | 9.62 |
| 11 | 26 | 75 | 8.67 | 9.45 | 9.65 | 9.71 | 9.62 | 9.54 | 9.42 | 9.59 |
| 12 | 2 | 75 | 8.47 | 9.36 | 9.50 | 9.56 | 9.50 | 9.62 | 9.30 | 9.30 |
| 12 | 5 | 75 | 8.42 | 9.42 | 9.59 | 9.56 | 9.50 | 9.50 | 9.39 | 9.33 |
| 12 | 8 | 75 | 8.63 | 9.45 | 9.67 | 9.76 | 9.70 | 9.63 | 9.51 | 9.49 |
| 12 | 11 | 75 | 8.60 | 9.59 | 9.81 | 9.87 | 9.81 | 9.73 | 9.57 | 9.50 |
| 12 | 14 | 75 | 8.63 | 9.50 | 9.80 | 10.01 | 9.50 | 9.90 | 9.78 | 9.60 |
| 12 | 17 | 75 | 8.60 | 9.43 | 9.69 | 9.70 | 9.01 | 9.86 | 9.61 | 9.50 |
| 12 | 20 | 75 | 8.53 | 9.42 | 9.61 | 9.70 | 9.82 | 9.75 | 9.60 | 9.47 |
| 12 | 23 | 75 | 8.33 | 9.37 | 9.51 | 9.65 | 9.72 | 9.70 | 9.50 | 9.20 |
| 12 | 31 | 75 | 8.37 | 9.12 | 9.30 | 9.41 | 9.51 | 9.46 | 9.43 | 9.29 |
| 1 | 3 | 76 | 8.39 | 9.16 | 9.40 | 9.40 | 9.57 | 9.56 | 9.40 | 9.37 |
| 1 | 6 | 76 | 8.37 | 9.09 | 9.30 | 9.65 | 9.50 | 9.54 | 9.46 | 9.19 |
| 1 | 9 | 76 | 8.47 | 9.01 | 9.28 | 9.40 | 9.52 | 9.47 | 9.45 | 9.15 |
| 1 | 12 | 76 | 8.29 | 8.90 | 9.12 | 9.27 | 9.40 | 9.32 | 9.36 | 9.25 |
| 1 | 15 | 76 | 8.31 | 8.91 | 9.07 | 9.20 | 9.32 | 9.30 | 9.28 | 9.10 |
| 1 | 18 | 76 | 8.30 | 8.90 | 9.23 | 9.32 | 9.44 | 9.44 | 9.45 | 9.37 |
| 1 | 21 | 76 | 8.30 | 8.90 | 9.09 | 9.26 | 9.32 | 9.31 | 9.36 | 9.30 |
| 1 | 24 | 76 | 8.50 | 8.92 | 9.10 | 9.27 | 9.33 | 9.30 | 9.39 | 9.33 |
| 1 | 27 | 76 | 8.60 | 8.91 | 9.17 | 9.31 | 9.36 | 9.36 | 9.39 | 9.36 |
| 1 | 30 | 76 | 8.45 | 8.83 | 9.11 | 9.21 | 9.32 | 9.30 | 9.37 | 9.34 |

Table B-9. The dissolved oxygen concentration of the raw sewage influent and the effluent from each pond in the Corinne Waste Stabilization Lagoon System.

DISSOLVED OXYGEN (MG/L)

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23 | 75 | 4.30 | 2.20 | 4.75 | 6.35 | 5.10 | 1.40 | 1.60 | 1.10 |
| 1 | 24 | 75 | 3.21 | 3.50 | 1.83 | 5.48 | 4.40 | 0.45 | 0.70 | 1.60 |
| 1 | 25 | 75 | 3.54 | 0.50 | 1.41 | 2.78 | 5.20 | 1.10 | 0.62 | 0.91 |
| 1 | 26 | 75 | 4.25 | 3.05 | 1.95 | 5.95 | 4.20 | 0.85 | 1.05 | 0.30 |
| 1 | 27 | 75 | 3.70 | 4.70 | 2.15 | 4.70 | 4.95 | 0.31 | 0.60 | 0.50 |
| 1 | 28 | 75 | 3.35 | 9.25 | 4.65 | 9.70 | 9.40 | 1.20 | 1.70 | 1.00 |
| 1 | 29 | 75 | 4.35 | 2.72 | 2.70 | 5.65 | 7.60 | 0.59 | 0.61 | 0.85 |
| 1 | 30 | 75 | 3.50 | 1.12 | 2.95 | 4.30 | 5.20 | 0.40 | 0.40 | 5.40 |
| 1 | 31 | 75 | 3.70 | 1.52 | 3.10 | 4.95 | 3.80 | 0.56 | 0.45 | 0.50 |
| 2 | 1 | 75 | 3.24 | 2.01 | 1.78 | 5.95 | 4.71 | 0.50 | 0.72 | 0.75 |
| 2 | 2 | 75 | 3.95 | 1.20 | 1.55 | 3.75 | 4.65 | 0.75 | 1.10 | 0.62 |
| 2 | 3 | 75 | 7.65 | 1.23 | 1.10 | 7.92 | 6.10 | 1.90 | 2.20 | 0.71 |
| 2 | 4 | 75 |  |  | 0.59 | 4.55 | 4.85 | 0.60 | 4.21 | 1.10 |
| 2 | 5 | 75 | 3.35 | 1.66 | 1.81 | 3.18 | 2.90 | 0.37 | 1.18 | 1.20 |
| 2 | 6 | 75 | 3.67 | 1.20 | 1.20 | 1.70 | 3.10 | 1.55 | 0.70 | 0.85 |
| 2 | 7 | 75 | 2.15 | 0.58 | 0.40 | 1.35 | 4.38 | 0.60 | 1.35 | 2.70 |
| 2 | 8 | 75 | 3.61 | 1.85 | 1.10 | 2.01 | 2.20 | 0.59 | 2.30 | 4.35 |
| 2 | 9 | 75 | 4.35 | 2.20 | 1.85 | 3.40 | 6.30 | 2.05 | 2.90 | 2.85 |
| 2 | 10 | 75 | 5.12 | 0.84 | 1.62 | 4.01 | 5.60 | 0.56 | 3.70 | 2.96 |
| 2 | 11 | 75 | 5.90 | 1.75 | 2.85 | 6.05 | 9.65 | 3.60 | 2.05 | 2.75 |
| 2 | 12 | 75 | 4.55 | 4.23 | 5.16 | 7.40 | 10.60 | 1.78 | 2.30 | 4.90 |
| 2 | 13 | 75 | 6.15 | 5.05 | 6.30 | 8.15 | 10.40 | 3.40 | 4.70 | 4.85 |
| 2 | 14 | 75 | 5.20 | 7.10 | 5.75 | 9.20 | 10.79 | 5.39 | 4.70 | 4.90 |
| 2 | 15 | 75 | 4.90 | 5.70 | 5.06 | 8.40 | 10.90 | 3.58 | 6.30 | 7.08 |
| 2 | 16 | 75 | 6.55 | 9.81 | 6.80 | 9.60 | 13.50 | 2.91 | 5.52 | 7.20 |
| 2 | 17 | 75 | 1.70 | 4.50 | 3.70 | 6.50 | 8.70 | 1.40 | 1.35 | 2.80 |
| 2 | 18 | 75 | 5.70 | 5.65 | 6.55 | 6.90 | 8.15 | 2.85 | 4.20 | 6.60 |
| 2 | 19 | 75 | 4.90 | 14.20 | 9.40 | 16.20 | 19.60 | 4.20 | 4.60 | 6.85 |
| 2 | 20 | 75 | 4.70 | 10.80 | 10.20 | 12.80 | 16.40 | 6.50 | 5.35 | 6.10 |
| 2 | 21 | 75 | 3.50 | 10.40 | 9.75 | 12.60 | 22.29 | 5.80 | 5.80 | 6.90 |
| 2 | 22 | 75 | 5.90 | 12.60 | 14.20 | 17.50 | 17.40 | 6.20 | 8.55 | 7.20 |
| 2 | 27 | 75 | 4.10 | 17.60 | 10.40 | 12.20 | 12.55 | 9.38 | 6.80 | 4.00 |
| 2 | 28 | 75 | 4.38 | 17.50 | 13.10 | 12.00 | 11.60 | 9.75 | 7.25 | 5.40 |
| 3 | 3 | 75 | 4.40 | 18.01 | 19.20 | 20.17 | 17.75 | 19.80 | 10.60 | 14.60 |
| 3 | 6 | 75 | 5.15 | 23.87 | 18.78 | 21.30 | 22.39 | 18.80 | 18.65 | 19.07 |
| 3 | 9 | 75 | 5.14 | 17.69 | 20.98 | 20.41 | 20.39 | 22.89 | 18.69 | 15.62 |
| 3 | 12 | 75 | 4.46 | 13.36 | 15.07 | 15.05 | 15.05 | 13.96 | 12.96 | 8.80 |
| 3 | 15 | 75 | 4.72 | 0.00 | 0.08 | 4.34 | 7.98 | 12.92 | 13.67 | 7.29 |
| 3 | 18 | 75 | 4.52 | 0.00 | 0.00 | 0.05 | 0.23 | 2.65 | 5.76 | 6.44 |
| 3 | 21 | 75 | 3.63 | 0.00 | 0.00 | 0.52 | 0.81 | 7.68 | 2.59 | 11.13 |
| 3 | 24 | 75 | 3.65 | 0.10 | 0.90 | 3.96 | 4.39 | 1.37 | 5.69 | 11.96 |
| 3 | 28 | 75 | 4.82 | 7.49 | 8.81 | 9.95 | 10.06 | 12.95 | 9.39 | 12.51 |
| 3 | 31 | 75 | 4.30 | 7.62 | 8.93 | 9.33 | 9.57 | 11.40 | 7.67 | 8.32 |
| 4 | 2 | 75 | 4.39 | 8.43 | 10.00 | 10.37 | 10.21 | 11.56 | 7.31 | 7.94 |
| 4 | 5 | 75 | 4.95 | 9.79 | 11.31 | 10.19 | 9.89 | 10.61 | 7.52 | 7.64 |
| 4 | 9 | 75 | 3.86 | 14.16 | 13.84 | 14.21 | 12.31 | 10.27 | 6.81 | 7.91 |
| 4 | 11 | 75 | 3.97 | 20.02 | 19.18 | 15.91 | 13.30 | 11.66 | 9.13 | 9.35 |
| 4 | 14 | 75 | 3.39 | 25.57 | 24.94 | 20.32 | 14.76 | 15.09 | 12.50 | 11.44 |
| 4 | 15 | 75 | 3.01 | 16.13 | 15.94 | 12.35 | 10.11 | 11.55 | 9.67 | 9.93 |
| 4 | 16 | 75 | 2.73 | 14.05 | 13.16 | 11.55 | 9.39 | 10.67 | 10.82 | 10.60 |
| 4 | 17 | 75 | 3.87 | 16.95 | 12.36 | 15.19 | 9.83 | 13.69 | 14.10 | 11.72 |
| 4 | 18 | 75 | 4.14 | 19.30 | 25.59 | 14.96 | 12.26 | 12.85 | 16.14 | 13.13 |
| 4 | 19 | 75 | 4.87 | 19.30 | 17.91 | 17.80 | 13.88 | 14.28 | 17.88 | 14.48 |
| 4 | 20 | 75 | 5.60 | 22.78 | 19.37 | 19.53 | 16.34 | 17.99 | 15.12 | 15.07 |
| 4 | 21 | 75 | 3.62 | 22.03 | 19.70 | 20.61 | 17.47 | 16.82 | 18.27 | 14.64 |
| 4 | 22 | 75 | 4.50 | 19.09 | 16.13 | 15.56 | 13.53 | 13.94 | 14.64 | 12.20 |
| 4 | 23 | 75 | 3.63 | 18.81 | 17.49 | 15.63 | 15.21 | 15.35 | 15.31 | 11.39 |
| 4 | 24 | 75 | 4.42 | 14.60 | 16.35 | 15.17 | 12.39 | 13.58 | 14.31 | 11.15 |
| 4 | 25 | 75 | 2.91 | 12.55 | 13.86 | 10.48 | 9.78 | 10.42 | 11.22 | 8.62 |
| 4 | 26 | 75 | 3.64 | 11.33 | 12.75 | 11.20 | 8.92 | 9.76 | 10.20 | 7.57 |
| 4 | 27 | 75 | 4.18 | 16.31 | 14.22 | 13.47 | 11.27 | 11.62 | 10.42 | 7.79 |
| 4 | 28 | 75 | 3.67 | 13.71 | 13.75 | 12.51 | 10.65 | 10.90 | 9.23 | 7.33 |
| 4 | 29 | 75 | 4.26 | 18.64 | 15.28 | 14.23 | 11.62 | 12.22 | 10.47 | 7.48 |
| 4 | 30 | 75 | 3.40 | 23.06 | 21.58 | 20.24 | 17.10 | 15.77 | 12.10 | 8.91 |
| 5 | 1 | 75 | 4.33 | 26.62 | 25.22 | 21.07 | 16.25 | 16.23 | 12.58 | 10.71 |
| 5 | 2 | 75 | 2.89 | 27.23 | 28.19 | 25.35 | 17.43 | 15.16 | 12.37 | 9.84 |
| 5 | 3 | 75 | 3.54 | 13.98 | 24.27 | 18.08 | 14.39 | 12.03 | 19.40 | 7.87 |
| 5 | 4 | 75 | 3.98 | 14.38 | 13.90 | 8.87 | 7.03 | 7.18 | 6.22 | 5.67 |
| 5 | 5 | 75 | 2.96 | 16.41 | 15.19 | 11.31 | 9.25 | 8.47 | 6.17 | 5.51 |
| 5 | 6 | 75 | 4.80 | 17.32 | 15.49 | 12.76 | 9.80 | 8.70 | 6.81 | 5.80 |
| 5 | 7 | 75 | 3.85 | 16.12 | 15.96 | 13.65 | 9.16 | 8.33 | 7.83 | 5.16 |
| 5 | 8 | 75 | 3.29 | 5.63 | 14.78 | 11.84 | 7.72 | 8.34 | 6.87 | 5.62 |
| 5 | 9 | 75 | 2.63 | 18.82 | 19.29 | 11.33 | 15.77 | 10.82 | 8.72 | 6.98 |
| 5 | 10 | 75 | 3.75 | 17.92 | 17.44 | 13.38 | 9.94 | 9.02 | 8.27 | 6.64 |
| 5 | 11 | 75 | 2.63 | 29.40 | 25.56 | 18.99 | 14.44 | 14.75 | 12.13 | 11.82 |
| 5 | 12 | 75 | 2.40 | 10.75 | 10.84 | 8.12 | 6.69 | 7.34 | 6.19 | 5.52 |
| 5 | 13 | 75 | 3.84 | 16.91 | 14.14 | 10.09 | 6.79 | 10.01 | 9.02 | 8.70 |
| 5 | 16 | 75 | 2.32 | 21.23 | 17.38 | 7.67 | 8.70 | 10.44 | 9.64 | 9.60 |
| 5 | 19 | 75 | 2.53 | 3.02 | 7.59 | 3.32 | 2.13 | 1.62 | 6.69 | 6.06 |
| 5 | 22 | 75 | 3.90 | 7.53 | 5.77 | 3.20 | 3.30 | 4.49 | 8.11 | 7.60 |
| 5 | 25 | 75 | 6.17 | 10.68 | 8.05 | 4.43 | 4.67 | 5.39 | 7.99 | 8.65 |
| 5 | 28 | 75 | 3.11 | 16.49 | 9.61 | 1.05 | 1.90 | 3.81 | 8.22 | 11.62 |
| 5 | 31 | 75 | 4.31 | 26.77 | 24.02 | 0.93 | 2.38 | 3.20 | 4.31 | 5.32 |
| 6 | 3 | 75 | 4.32 | 3.36 | 12.08 | 0.71 | 0.97 | 1.12 | 2.08 | 1.26 |
| 6 | 6 | 75 | 4.21 | 11.82 | 11.39 | 0.65 | 0.70 | 0.90 | 3.06 | 0.65 |
| 6 | 9 | 75 | 4.89 | 1.03 | 0.85 | 0.80 | 0.72 | 0.93 | 2.30 | 1.33 |
| 6 | 12 | 75 | 3.00 | 17.49 | 14.84 | 0.46 | 0.55 | 0.62 | 1.60 | 2.32 |
| 6 | 15 | 75 | 5.05 | 10.85 | 17.75 | 0.99 | 0.83 | 1.54 | 3.63 | 3.84 |
| 6 | 18 | 75 | 2.90 | 8.91 | 1.43 | 1.00 | 0.73 | 1.73 | 3.05 | 3.17 |
| 6 | 21 | 75 | 4.12 | 13.82 | 9.40 | 0.91 | 0.90 | 1.43 | 1.67 | 2.27 |
| 6 | 24 | 75 | 2.56 | 20.26 | 18.01 | 0.58 | 0.53 | 4.36 | 2.76 | 2.96 |
| 6 | 27 | 75 | 1.29 | 22.16 | 20.10 | 3.03 | 2.25 | 5.93 | 2.12 | 5.77 |
| 6 | 30 | 75 | 1.92 | 23.81 | 21.39 | 0.69 | 0.85 | 4.90 | 5.16 | 7.90 |
| 7 | 3 | 75 | 2.24 | 20.04 | 7.47 | 0.65 | 2.34 | 1.49 | 5.47 | 8.16 |
| 7 | 6 | 75 | 3.98 | 14.07 | 10.77 | 0.48 | 3.23 | 2.31 | 7.25 | 6.84 |
| 7 | 9 | 75 | 1.66 | 7.81 | 0.76 | 0.29 | 1.22 | 0.91 | 3.61 | 5.87 |
| 7 | 12 | 75 | 3.36 | 0.62 | 0.82 | 0.72 | 0.85 | 0.90 | 6.08 | 6.93 |
| 7 | 15 | 75 | 2.22 | 3.72 | 3.94 | 5.73 | 0.82 | 1.57 | 8.17 | 8.21 |
| 7 | 16 | 75 | 2.09 | 0.00 | 0.80 | 1.14 | 0.85 | 2.57 | 6.85 | 3.91 |
| 7 | 17 | 75 | 2.37 | 3.62 | 2.83 | 1.21 | 1.01 | 4.93 | 5.05 | 8.97 |
| 7 | 18 | 75 | 1.85 | 7.99 | 6.06 | 0.85 | 2.48 | 5.20 | 6.38 | 10.60 |

Table B-9. (Continued).

DISSOLVED OXYGEN (MG/L)

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 19 | 75 | 2.82 | 12.78 | 7.69 | 3.36 | 6.12 | 8.85 | 9.41 | 12.66 |
| 7 | 20 | 75 | 2.89 | 15.06 | 11.10 | 3.26 | 6.31 | 12.26 | 9.70 | 5.40 |
| 7 | 21 | 75 | 2.41 | 4.37 | 7.34 | 0.96 | 2.74 | 7.96 | 7.14 | 11.09 |
| 7 | 22 | 75 | 2.75 | 0.33 | 3.29 | 0.92 | 0.71 | ND | ND | 9.88 |
| 7 | 23 | 75 | 0.88 | 0.58 | 1.12 | 1.31 | 0.66 | 5.71 | 9.42 | 7.95 |
| 7 | 24 | 75 | 1.76 | 16.13 | 11.86 | 6.24 | 3.71 | 8.93 | 12.37 | 12.01 |
| 7 | 25 | 75 | 2.50 | 15.26 | 9.76 | 5.76 | 4.74 | 12.91 | 9.58 | 11.62 |
| 7 | 26 | 75 | 1.66 | 14.47 | 9.58 | 4.68 | 3.02 | 8.64 | 13.41 | 11.66 |
| 7 | 27 | 75 | 3.41 | 18.65 | 9.09 | 5.48 | 6.40 | 12.32 | 13.77 | 15.79 |
| 7 | 28 | 75 | 2.51 | 12.60 | 6.58 | 3.11 | 5.51 | 10.65 | 13.10 | 13.70 |
| 7 | 29 | 75 | 1.90 | 0.00 | 0.00 | 1.70 | 3.02 | 7.63 | 12.84 | 12.31 |
| 7 | 30 | 75 | 2.20 | 0.00 | 0.00 | 0.48 | 0.55 | 3.47 | 8.51 | 9.38 |
| 7 | 31 | 75 | 2.29 | 0.20 | 0.10 | 0.39 | 1.48 | 3.47 | 5.67 | 7.05 |
| 8 | 1 | 75 | 1.85 | 0.90 | 3.01 | 5.12 | 2.19 | 7.93 | 8.16 | 12.18 |
| 8 | 2 | 75 | 2.17 | 12.22 | 8.01 | 8.46 | 5.40 | 9.79 | 9.26 | 7.57 |
| 8 | 3 | 75 | 2.16 | 19.39 | 14.27 | 11.47 | 8.58 | 12.58 | 10.87 | 7.87 |
| 8 | 4 | 75 | 2.09 | 14.68 | 12.26 | 7.09 | 8.32 | 12.62 | 10.29 | 8.46 |
| 8 | 5 | 75 | 2.23 | 20.45 | 11.12 | 6.14 | 7.93 | 13.10 | 10.20 | 9.20 |
| 8 | 6 | 75 | 2.40 | 17.39 | 11.30 | 4.26 | 7.99 | 11.82 | 11.18 | 12.05 |
| 8 | 7 | 75 | 2.00 | 0.80 | 6.28 | 3.19 | 6.91 | 11.28 | 10.49 | 11.05 |
| 8 | 8 | 75 | 2.79 | 8.16 | 7.00 | 2.66 | 5.12 | 11.94 | 10.50 | 11.42 |
| 8 | 9 | 75 | 1.82 | ND | 8.43 | 5.08 | 6.08 | 10.56 | 9.00 | 12.10 |
| 8 | 10 | 75 | 2.80 | 16.10 | 5.96 | 6.18 | 7.62 | 10.22 | 11.49 | 10.49 |
| 8 | 11 | 75 | 2.08 | 11.82 | 6.20 | 2.20 | 6.09 | 10.36 | 8.65 | 9.18 |
| 8 | 12 | 75 | 2.19 | 0.61 | 1.80 | 0.50 | 4.05 | 9.40 | 6.95 | 9.48 |
| 8 | 13 | 75 | 2.07 | 3.74 | 1.88 | 0.61 | 3.36 | 8.10 | 6.81 | 8.92 |
| 8 | 14 | 75 | 1.90 | 7.10 | 3.37 | 4.11 | 0.28 | 8.08 | 6.23 | 6.82 |
| 8 | 17 | 75 | 3.09 | 2.54 | 4.28 | 1.79 | 2.64 | 5.23 | 3.98 | 7.22 |
| 8 | 20 | 75 | 2.73 | 5.00 | 1.82 | 1.04 | 0.46 | 3.57 | 5.82 | 4.48 |
| 8 | 23 | 75 | 1.89 | 6.96 | 4.24 | 3.03 | 2.84 | 2.55 | 2.53 | 3.51 |
| 8 | 26 | 75 | 2.11 | 11.74 | 8.37 | 3.07 | 3.63 | 3.56 | 6.31 | 6.15 |
| 8 | 29 | 75 | 1.46 | 5.93 | 4.56 | 0.69 | 4.76 | 6.00 | 6.49 | 3.82 |
| 9 | 1 | 75 | 2.51 | 6.42 | ND | 0.61 | 9.45 | 5.34 | 4.53 | 4.73 |
| 9 | 4 | 75 | 2.16 | 2.40 | 4.80 | 3.54 | 6.64 | 6.08 | 5.08 | 5.51 |
| 9 | 7 | 75 | 3.28 | 2.99 | 6.74 | 2.15 | 5.05 | 7.51 | 4.27 | 4.67 |
| 9 | 10 | 75 | 1.50 | 0.00 | 8.54 | 2.26 | 2.28 | 8.97 | 11.08 | 4.65 |
| 9 | 13 | 75 | 1.72 | 3.47 | 2.21 | 1.41 | 5.09 | 6.11 | 8.40 | 3.16 |
| 9 | 16 | 75 | 2.05 | 5.52 | 2.30 | 2.31 | ND | 5.68 | 7.52 | 4.23 |
| 9 | 19 | 75 | 1.70 | 2.20 | 0.41 | 0.33 | 0.00 | 3.81 | 8.59 | 4.96 |
| 9 | 22 | 75 | 0.53 | 4.26 | 3.45 | 2.39 | 2.00 | 4.06 | 7.66 | 5.73 |
| 9 | 25 | 75 | 1.79 | 8.99 | 5.89 | 2.76 | 4.21 | 5.84 | 8.18 | 6.13 |
| 9 | 28 | 75 | 1.86 | 7.87 | 5.74 | 2.03 | 2.52 | 6.45 | 9.41 | 11.83 |
| 10 | 1 | 75 | 2.51 | 9.64 | 6.48 | 3.47 | 5.63 | 5.95 | 8.42 | 7.23 |
| 10 | 4 | 75 | 2.86 | 8.39 | 9.71 | 4.68 | 5.63 | 6.52 | 8.53 | 7.10 |
| 10 | 7 | 75 | 2.75 | 5.79 | 4.20 | 2.40 | 0.84 | 4.69 | 7.00 | 5.47 |
| 10 | 10 | 75 | 1.18 | 13.04 | 0.90 | 4.08 | 5.37 | 5.36 | 4.21 | 5.43 |
| 10 | 13 | 75 | 1.70 | 7.55 | 5.18 | 3.38 | 2.26 | 1.42 | 6.05 | 7.68 |
| 10 | 16 | 75 | 2.74 | 10.83 | 7.55 | 6.32 | 6.61 | 4.79 | 4.23 | 5.66 |
| 10 | 20 | 75 | 2.18 | 7.44 | 8.73 | 6.45 | 8.70 | 4.46 | 6.20 | 8.10 |
| 10 | 21 | 75 | 2.22 | 11.66 | 9.45 | 6.01 | 9.35 | 4.37 | 6.44 | 8.66 |
| 10 | 22 | 75 | 2.00 | 8.04 | 4.48 | 4.71 | 4.28 | 4.13 | 9.52 | 8.73 |
| 10 | 23 | 75 | 1.88 | 8.65 | 6.44 | 4.91 | 3.28 | 2.77 | 7.94 | 8.40 |
| 10 | 24 | 75 | 0.00 | 11.70 | 7.13 | 6.67 | 4.30 | 5.31 | 8.38 | 9.56 |
| 10 | 25 | 75 | 2.08 | 12.43 | 10.07 | 8.76 | 5.24 | 4.30 | 7.53 | 9.04 |
| 10 | 26 | 75 | 2.33 | 10.59 | 9.63 | 8.80 | 6.27 | 2.49 | 8.53 | 8.89 |
| 10 | 27 | 75 | 2.91 | 9.30 | 9.25 | 8.09 | 6.25 | 6.45 | 7.15 | 9.62 |
| 10 | 28 | 75 | 2.38 | 11.17 | 10.42 | 9.37 | 6.72 | 5.36 | 7.80 | 8.76 |
| 10 | 29 | 75 | 2.08 | 13.16 | 12.56 | ND | 8.29 | 8.28 | 8.14 | 9.87 |
| 10 | 30 | 75 | 1.91 | 18.24 | 15.00 | 13.50 | 10.14 | 9.52 | 9.50 | ND |
| 10 | 31 | 75 | 2.37 | 12.50 | 12.28 | 10.77 | 8.89 | 7.63 | 8.48 | 9.43 |
| 11 | 1 | 75 | 2.42 | 13.08 | 12.69 | 10.90 | 8.56 | 7.29 | 8.49 | 9.59 |
| 11 | 2 | 75 | ND | 16.28 | 14.58 | 12.07 | 10.28 | 8.27 | 8.53 | 9.98 |
| 11 | 3 | 75 | 1.98 | 15.78 | 15.05 | 12.90 | 11.12 | 8.89 | 9.11 | 10.87 |
| 11 | 4 | 75 | 2.42 | 15.35 | 14.44 | 11.98 | 10.72 | 9.02 | 8.82 | 10.68 |
| 11 | 5 | 75 | 2.46 | 14.78 | 13.28 | 13.18 | 11.27 | 8.96 | 8.81 | 10.96 |
| 11 | 6 | 75 | 2.20 | 17.42 | 16.79 | 12.97 | 11.67 | 8.52 | 8.66 | 10.47 |
| 11 | 7 | 75 | 0.00 | 16.43 | 15.12 | 12.32 | 9.45 | 8.49 | 9.22 | 11.44 |
| 11 | 8 | 75 | 2.69 | 12.34 | 12.47 | 9.05 | 7.01 | 5.00 | 7.23 | 9.37 |
| 11 | 9 | 75 | 3.68 | 12.11 | 12.75 | 9.67 | 8.18 | 5.24 | 6.44 | 9.68 |
| 11 | 10 | 75 | 2.23 | 12.88 | 12.17 | 9.95 | 7.16 | 4.84 | 6.81 | 9.73 |
| 11 | 11 | 75 | 2.35 | 10.36 | 10.95 | 8.44 | 6.90 | 4.38 | 5.97 | 8.62 |
| 11 | 12 | 75 | 3.01 | 12.39 | 12.34 | 10.93 | 11.13 | 4.83 | 6.40 | 9.06 |
| 11 | 13 | 75 | 1.49 | 13.83 | 13.21 | 11.24 | 6.67 | 5.22 | 7.03 | 9.73 |
| 11 | 14 | 75 | 2.21 | 15.77 | 14.72 | 12.77 | 9.54 | 5.61 | 7.35 | 9.90 |
| 11 | 15 | 75 | 2.56 | 15.03 | 14.55 | 12.71 | 10.06 | 5.96 | 7.26 | 11.18 |
| 11 | 16 | 75 | 0.00 | 15.89 | 15.69 | 13.66 | 10.13 | 5.80 | 7.88 | 10.37 |
| 11 | 17 | 75 | 0.00 | 13.52 | 13.85 | 12.28 | 9.57 | 2.62 | 7.18 | 10.25 |
| 11 | 18 | 75 | 1.74 | 11.98 | 11.64 | 10.06 | 8.39 | 6.47 | 7.36 | 9.65 |
| 11 | 19 | 75 | 1.66 | 12.84 | 12.90 | 11.59 | 9.31 | 6.50 | 7.69 | 9.95 |
| 11 | 20 | 75 | 1.78 | 14.31 | 15.31 | 11.72 | 10.35 | 7.71 | 8.53 | 10.06 |
| 11 | 23 | 75 | 2.62 | 15.18 | 15.76 | 12.88 | 9.51 | 8.18 | 8.18 | 9.95 |
| 11 | 26 | 75 | 2.28 | 13.95 | 14.66 | 14.26 | 11.57 | 9.19 | 8.18 | 10.10 |
| 12 | 2 | 75 | 2.38 | 14.61 | 16.17 | 15.77 | 10.67 | 12.54 | 9.11 | 8.59 |
| 12 | 5 | 75 | 1.79 | 14.73 | 16.23 | 18.84 | 12.20 | 12.09 | 10.50 | 8.18 |
| 12 | 8 | 75 | 1.88 | 15.10 | 17.54 | 20.78 | 17.47 | 14.12 | 11.05 | 10.05 |
| 12 | 11 | 75 | 2.07 | 16.36 | 13.56 | 23.40 | 20.97 | 17.33 | 12.38 | 9.43 |
| 12 | 14 | 75 | 3.66 | 10.44 | 14.07 | 21.38 | 17.57 | 15.32 | 12.75 | 10.16 |
| 12 | 17 | 75 | 2.24 | 10.43 | 13.10 | 19.16 | 20.23 | 16.61 | 14.66 | 10.55 |
| 12 | 20 | 75 | 3.59 | 13.36 | 15.35 | 15.34 | 20.45 | 20.56 | 16.45 | 9.78 |
| 12 | 23 | 75 | 3.40 | 15.92 | 13.03 | 16.81 | 21.73 | 20.47 | 20.37 | 10.31 |
| 12 | 31 | 75 | 2.69 | 9.99 | 11.47 | 16.08 | 18.39 | 15.06 | 17.47 | 8.43 |
| 1 | 3 | 76 | ND | ND | ND | ND | ND | ND | ND | ND |
| 1 | 6 | 76 | 2.24 | 2.21 | 7.09 | 8.48 | 9.02 | 9.89 | 7.27 | 2.85 |
| 1 | 9 | 76 | 3.23 | 0.20 | 2.93 | 6.37 | 12.62 | 5.78 | 4.97 | 1.90 |
| 1 | 12 | 76 | 2.79 | 0.50 | 1.73 | 7.63 | 13.86 | 5.59 | 7.08 | 4.29 |
| 1 | 15 | 76 | 3.18 | 0.17 | 0.12 | 4.18 | 8.68 | 4.17 | 5.00 | 2.06 |
| 1 | 18 | 76 | 4.02 | 1.31 | 0.55 | 4.37 | 8.42 | 4.39 | 6.13 | 1.51 |
| 1 | 21 | 76 | 1.90 | 0.13 | 0.17 | 3.21 | 4.71 | 1.17 | 4.65 | 0.74 |
| 1 | 24 | 76 | 2.72 | 0.14 | 0.24 | 2.73 | 3.89 | 0.13 | 2.72 | 0.59 |
| 1 | 27 | 76 | 3.56 | 0.03 | 1.36 | 1.11 | 2.47 | 0.10 | 1.20 | 0.73 |
| 1 | 30 | 76 | 5.04 | 0.07 | 0.25 | 2.69 | 4.31 | 0.07 | 1.92 | 1.88 |

Table B-10. Alkalinity (as $CaCO_3$) concentration of the raw sewage influent and the effluent from each pond in the Corinne Waste Stabilization Lagoon System.

ALKALINITY (MG/L)

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23 | 75 | 511. | 555. | 561. | 575. | 0. | 613. | 682. | 675. |
| 1 | 24 | 75 | 514. | 563. | 0. | 587. | 0. | 620. | 0. | 685. |
| 1 | 25 | 75 | 507. | 559. | 567. | 595. | 598. | 0. | 657. | 672. |
| 1 | 26 | 75 | 475. | 559. | 562. | 577. | 600. | 626. | 637. | 682. |
| 1 | 27 | 75 | 539. | 565. | 535. | 570. | 613. | 600. | 643. | 670. |
| 1 | 28 | 75 | 543. | 0. | 546. | 0. | 590. | 627. | 665. | 639. |
| 1 | 29 | 75 | 530. | 557. | 552. | 578. | 0. | 643. | 626. | 652. |
| 1 | 30 | 75 | 537. | 536. | 557. | 582. | 595. | 599. | 665. | 0. |
| 1 | 31 | 75 | 503. | 745. | 480. | 591. | 609. | 634. | 659. | 704. |
| 2 | 1 | 75 | 557. | 633. | 556. | 564. | 609. | 879. | 910. | 689. |
| 2 | 2 | 75 | 537. | 561. | 570. | [illegible] | 615. | 639. | 670. | [illegible] |
| 2 | 3 | 75 | 517. | 525. | 566. | 585. | 604. | 632. | 665. | 695. |
| 2 | 4 | 75 | 524. | 539. | 554. | 579. | 592. | 636. | 549. | 690. |
| 2 | 5 | 75 | 517. | 548. | 570. | 574. | 617. | 652. | 687. | 698. |
| 2 | 6 | 75 | 529. | 551. | 499. | 581. | 646. | 550. | 660. | 676. |
| 2 | 7 | 75 | 529. | 546. | 559. | 582. | 598. | 621. | 660. | 681. |
| 2 | 8 | 75 | 524. | 638. | 562. | 576. | 597. | 635. | 650. | 682. |
| 2 | 9 | 75 | 475. | 538. | 545. | 529. | 598. | 610. | 619. | 661. |
| 2 | 10 | 75 | 478. | 526. | 567. | 587. | 589. | 673. | 669. | 670. |
| 2 | 11 | 75 | 469. | 534. | 555. | 572. | 578. | 614. | 636. | 555. |
| 2 | 12 | 75 | 552. | 506. | 572. | 586. | 604. | 624. | 655. | 556. |
| 2 | 13 | 75 | 581. | 533. | 519. | 566. | 578. | 625. | 667 | 546. |
| 2 | 14 | 75 | 594. | 489. | 563. | 571. | 579. | 590. | [illegible] | 501. |
| 2 | 15 | 75 | 543. | 525. | 540. | 571. | 592. | 605. | [illegible] | 487. |
| 2 | 16 | 75 | 592. | 502. | 539. | 570. | 559. | 615. | [illegible] | 393. |
| 2 | 17 | 75 | 609. | 516. | 541. | 526. | 570. | 520. | 619. | 412. |
| 2 | 18 | 75 | 613. | 516. | 552. | 555. | 563. | 591. | 634. | 371. |
| 2 | 19 | 75 | 635. | 513. | 543. | 558. | 553. | 584. | 609. | 360. |
| 2 | 20 | 75 | 623. | 529. | 538. | 543. | 561. | 580. | 633. | 505. |
| 2 | 21 | 75 | 575. | 503. | 521. | 529. | 531. | 562. | 612. | 430. |
| 2 | 22 | 75 | 598. | 499. | 526. | 526. | 528. | 565. | 643. | 607. |
| 2 | 27 | 75 | 588. | 523. | 524. | 510. | 539. | 550. | 591. | 619. |
| 2 | 28 | 75 | 581. | 548. | 525. | 528. | 550. | 556. | 565. | 611. |
| 3 | 3 | 75 | 610. | 513. | 518. | 509. | 531. | 532. | 538. | 534. |
| 3 | 6 | 75 | 561. | 510. | 498. | 478. | 494. | 88. | 498. | 512. |
| 3 | 9 | 75 | 632. | 496. | 454. | 419. | 425. | 370. | 428. | 454. |
| 3 | 12 | 75 | 636. | 508. | 481. | 423. | 424. | 421. | 418. | 435. |
| 3 | 15 | 75 | 632. | 513. | 482. | 460. | 442. | 430. | 429. | 441. |
| 3 | 18 | 75 | 602. | 520. | 483. | 474. | 461. | 447. | 431. | 421. |
| 3 | 21 | 75 | 634. | 553. | 520. | 513. | 437. | 451. | 361. | 443. |
| 3 | 24 | 75 | 640. | 564. | 499. | 523. | 518. | 465. | 440. | 459. |
| 3 | 28 | 75 | 612. | 552. | 524. | 498. | 488. | 444. | 487. | 437. |
| 3 | 31 | 75 | 620. | 574. | 512. | 488. | 506. | 479. | 559. | 480. |
| 4 | 2 | 75 | 626. | 548. | 530. | 505. | 505. | 482. | 594. | 489. |
| 4 | 5 | 75 | 622. | 556. | 520. | 498. | 497. | 530. | 574. | 480. |
| 4 | 8 | 75 | 637. | 571. | 570. | 546. | 540. | 550. | 559. | 512. |
| 4 | 11 | 75 | 602. | 576. | 562. | 538. | 547. | 563. | 594. | 473. |
| 4 | 14 | 75 | 626. | 587. | 676. | 542. | 528. | 540. | 529. | 506. |
| 4 | 15 | 75 | 616. | 584. | 565. | 528. | 542. | 553. | 520. | 526. |
| 4 | 16 | 75 | 586. | 582. | 550. | 531. | 527. | 533. | 516. | 499. |
| 4 | 17 | 75 | 589. | 573. | 548. | 533. | 548. | 541. | 526. | 517. |
| 4 | 18 | 75 | 494. | 563. | 549. | 537. | 533. | 523. | 512. | 513. |
| 4 | 19 | 75 | 603. | 545. | 506. | 521. | 495. | 486. | 473. | 508. |
| 4 | 20 | 75 | 607. | 543. | 541. | 499. | 496. | 512. | 494. | 482. |
| 4 | 21 | 75 | 632. | 538. | 520. | 524. | 495. | 507. | 501. | 504. |
| 4 | 22 | 75 | 613. | 564. | 529. | 518. | 509. | 512. | 504. | 506. |
| 4 | 23 | 75 | 622. | 546. | 536. | 520. | 512. | 513. | 504. | 528. |
| 4 | 24 | 75 | 572. | 544. | 530. | 516. | 504. | 504. | 493. | [illegible] |
| 4 | 25 | 75 | 607. | 551. | 512. | 506. | 491. | 494. | 466. | 494. |
| 4 | 26 | 75 | 593. | 507. | 473. | 468. | 468. | 474. | 464. | 474. |
| 4 | 27 | 75 | 617. | 547. | 519. | 478. | 479. | 492. | 474. | 502. |
| 4 | 28 | 75 | 588. | 530. | 525. | 495. | 490. | 476. | 476. | 500. |
| 4 | 29 | 75 | 628. | 538. | 518. | 489. | 471. | 482. | 483. | 503. |
| 4 | 30 | 75 | 605. | 534. | 515. | 486. | 462. | 494. | 457. | 509. |
| 5 | 1 | 75 | 616. | 539. | 506. | 493. | 481. | 479. | 482. | 496. |
| 5 | 2 | 75 | 583. | 505. | 504. | 495. | 485. | 463. | 443. | 443. |
| 5 | 3 | 75 | 570. | 539. | 508. | 507. | 456. | 427. | 473. | 473. |
| 5 | 4 | 75 | 598. | 507. | 493. | 467. | 486. | 417. | 470. | 472. |
| 5 | 5 | 75 | 569. | 533. | 510. | 497. | 447. | 447. | 459. | 451. |
| 5 | 6 | 75 | 597. | 530. | 489. | 494. | 468. | 483. | 481. | 468. |
| 5 | 7 | 75 | 585. | 540. | 501. | 491. | 480. | 495. | 463. | 495. |
| 5 | 8 | 75 | 584. | 530. | 500. | 483. | 472. | 494. | 411. | 472. |
| 5 | 9 | 75 | 588. | 522. | 509. | 504. | 376. | 482. | 486. | 486. |
| 5 | 10 | 75 | 623. | 537. | 521. | 502. | 498. | 488. | 483. | 496. |
| 5 | 11 | 75 | 582. | 528. | 494. | 498. | 486. | 423. | 484. | 416. |
| 5 | 12 | 75 | 606. | 542. | 533. | 495. | 495. | 492. | 489. | 497. |
| 5 | 13 | 75 | 587. | 551. | 505. | 500. | 488. | 717. | 477. | 476. |
| 5 | 16 | 75 | 604. | 560. | 536. | 524. | 503. | 495. | 463. | 494. |
| 5 | 19 | 75 | 574. | 552. | 576. | 548. | 513. | 502. | 499. | 499. |
| 5 | 22 | 75 | 554. | 569. | 541. | 540. | 520. | 510. | 505. | 501. |
| 5 | 25 | 75 | 520. | 569. | 528. | 534. | 510. | 516. | 504. | 494. |
| 5 | 28 | 75 | 555. | 588. | 664. | 546. | 528. | 521. | 510. | 510. |
| 5 | 31 | 75 | 537. | 587. | 567. | 567. | 550. | 541. | 532. | 518. |
| 6 | 3 | 75 | 609. | 556. | 561. | 566. | 565. | 558. | [illegible] | [illegible] |
| 6 | 6 | 75 | 601. | 573. | 542. | 594. | 581. | 568. | 549. | 532. |
| 6 | 9 | 75 | 567. | 589. | 587. | 599. | 599. | 583. | 562. | 530. |
| 6 | 12 | 75 | 604. | 578. | 582. | 588. | 607. | 560. | 570. | 551. |
| 6 | 15 | 75 | 634. | 591. | 569. | 604. | 603. | 614. | 593. | 572. |
| 6 | 18 | 75 | 588. | 609. | 579. | 604. | 625. | 618. | 604. | 568. |
| 6 | 21 | 75 | 558. | 567. | 594. | 581. | 590. | 607. | 608. | 578. |
| 6 | 24 | 75 | 596. | 573. | 605. | 577. | 580. | 607. | 605. | 591. |
| 6 | 27 | 75 | 593. | 568. | 560. | [illegible] | 591. | 609. | 609. | 601. |
| 6 | 30 | 75 | 532. | 553. | 583. | 604. | 624. | 629. | 642 | 619. |
| 7 | 3 | 75 | 604. | 573. | 551. | 593. | 624. | 621. | 637. | 617. |
| 7 | 6 | 75 | 461. | 582. | 563. | 591. | 620. | 637. | 648. | 630. |
| 7 | 9 | 75 | 601. | 599. | 590. | 580. | 603. | 654. | [illegible] | 658. |
| 7 | 12 | 75 | 607. | 620. | 606. | 581. | 596. | 617. | 649. | 652. |
| 7 | 15 | 75 | 539. | 613. | 597. | 571. | 563. | 622. | 650. | 651. |
| 7 | 16 | 75 | 589. | 617. | 617. | 586. | 580. | 643. | 668. | 672. |
| 7 | 17 | 75 | 609. | 602. | 598. | 567. | 599. | 643. | 654. | 663. |
| 7 | 18 | 75 | 617. | 639. | 601. | 580. | 577. | 617. | 636. | 669. |

Table B-10. (Continued).

ALKALINITY (MG/L)

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 19 | 75 | 590. | 620. | 630. | 583. | 582. | 625. | 660. | 676. |
| 7 | 20 | 75 | 5[illegible]7. | 602. | 616. | 573. | 560. | 617. | 665. | 655. |
| 7 | 21 | 75 | 562. | 607. | 614. | 590. | 593. | 619. | 659. | 665. |
| 7 | 22 | 75 | 572. | 590. | 614. | 575. | 582. | 609. | 649. | 670. |
| 7 | 23 | 75 | 578. | 612. | 619. | 586. | 585. | 613. | 630. | 671. |
| 7 | 24 | 75 | 591. | 590. | 607. | 583. | 575. | 606. | 643. | 645. |
| 7 | 25 | 75 | 600. | 623. | 620. | 595. | 571. | 592. | 641. | 649. |
| 7 | 26 | 75 | 606. | ND | 636. | 610. | 594. | 601. | 631. | 670. |
| 7 | 27 | 75 | 560. | 627. | 628. | 607. | 584. | 610. | 619. | 670. |
| 7 | 28 | 75 | 610. | 607. | 624. | 626. | 611. | 609. | 641. | 666. |
| 7 | 29 | 75 | 595. | 624. | 639. | 609. | 603. | 609. | 649. | 676. |
| 7 | 30 | 75 | 613. | 623. | 646. | 631. | 604. | 607. | 636. | 670. |
| 7 | 31 | 75 | 580. | 616. | 606. | 640. | 580. | 600. | 618. | 668. |
| 8 | 1 | 75 | 579. | 617. | 633. | 589. | 581. | 590. | 597. | 640. |
| 8 | 2 | 75 | 593. | 632. | 651. | 616. | 596. | 605. | 615. | 642. |
| 8 | 3 | 75 | 577. | 620. | 632. | 618. | 595. | 593. | 606. | ND |
| 8 | 4 | 75 | 562. | 621. | 641. | 622. | 582. | 613. | 609. | 658. |
| 8 | 5 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 8 | 6 | 75 | 606. | 598. | 610. | 620. | 593. | 585. | 598. | 618. |
| 8 | 7 | 75 | 592. | 597. | 601. | 622. | 604. | 592. | 594. | 627. |
| 8 | 8 | 75 | 569. | 623. | 595. | 621. | 613. | 597. | 607. | 632. |
| 8 | 9 | 75 | 590. | 627. | 591. | 621. | 616. | 592. | 604. | 620. |
| 8 | 10 | 75 | 539. | 621. | 601. | 621. | 615. | 581. | 603. | 586. |
| 8 | 11 | 75 | 541. | 605. | 595. | 617. | 614. | 584. | 583. | 605. |
| 8 | 12 | 75 | 620. | 601. | 612. | 626. | 610. | 595. | 601. | 594. |
| 8 | 13 | 75 | 581. | 600. | 607. | 613. | 621. | 583. | 587. | 604. |
| 8 | 14 | 75 | 614. | 623. | 617. | 626. | 619. | 600. | 601. | 607. |
| 8 | 17 | 75 | 575. | 636. | ND | 650. | 640. | 633. | 606. | 617. |
| 8 | 20 | 75 | 647. | 596. | 642. | 656. | 630. | 620. | 601. | 600. |
| 8 | 23 | 75 | 597. | 639. | 646. | 646. | 649. | 642. | 610. | 606. |
| 8 | 26 | 75 | 593. | 629. | 647. | 658. | 652. | 646 | 626. | 597. |
| 8 | 29 | 75 | 599. | 644. | 653. | 672. | 665. | 659. | 637. | 614. |
| 9 | 1 | 75 | 614. | 642. | 659. | 660. | 661. | 657. | 650. | 609. |
| 9 | 4 | 75 | 622. | 637. | 650. | 671. | 662. | 650. | 646. | 635. |
| 9 | 7 | 75 | 569. | 653. | 643. | 677. | 670. | 676. | 676. | 629. |
| 9 | 10 | 75 | 602. | 620. | 598. | 654. | 661. | 659. | 651. | 631. |
| 9 | 13 | 75 | 607. | 625. | 615. | 649. | 661. | 664. | 676. | 649. |
| 9 | 16 | 75 | 570. | 630. | 621. | 650. | 655. | 665. | 672. | 641. |
| 9 | 19 | 75 | 591. | 653. | 638. | 647. | 672. | 664. | 664. | 612. |
| 9 | 22 | 75 | 550. | 616. | 626. | 631. | 646. | 656. | 657. | 639. |
| 9 | 25 | 75 | 555. | 621. | 619. | 646. | 660. | 664. | 661. | 647. |
| 9 | 28 | 75 | 615. | 613. | 630. | 642. | 650. | 651. | 675. | 633. |
| 10 | 1 | 75 | 602. | 629. | 697. | 689. | 651. | 683. | 703. | 686. |
| 10 | 4 | 75 | 579. | 612. | 656. | 686. | 665. | 701. | 671. | 692. |
| 10 | 7 | 75 | 581. | 619. | 638. | 655. | 657. | 660. | 692. | 667. |
| 10 | 10 | 75 | ND | 594. | 635. | 639. | 654. | 663. | 674. | 685. |
| 10 | 13 | 75 | 588. | 588. | 612. | 618. | 629. | 636. | 671. | 659. |
| 10 | 16 | 75 | 557. | 600. | 611. | 603. | 626. | 630. | 653. | 656. |
| 10 | 20 | 75 | 535. | 589. | 606. | 602. | 600. | 634. | 635. | 659. |
| 10 | 21 | 75 | 593. | 566. | 620. | 601. | 609. | 648. | 640. | ND |
| 10 | 22 | 75 | ND | 565. | 572. | 572. | 584. | 666. | 624. | 629. |
| 10 | 23 | 75 | 545. | 553. | 592. | 588. | 603. | 620. | 634. | 640. |
| 10 | 24 | 75 | 552. | 555. | 587. | 587. | 610. | 626. | 630. | 651. |
| 10 | 25 | 75 | 586. | 556. | 560. | 596. | 601. | 619. | 637. | 640. |
| 10 | 26 | 75 | 521. | 538. | 563. | 572. | 589. | ND | 629. | 642. |
| 10 | 27 | 75 | ND | 546. | 567. | 561. | 575. | 615. | 617. | 630. |
| 10 | 28 | 75 | 515. | 528. | 549. | ND | 581. | 604. | 594. | 615. |
| 10 | 29 | 75 | ND | 519. | 549. | 554. | 573. | 592. | 615. | 626. |
| 10 | 30 | 75 | 586. | 532. | 553. | 559. | 570. | 589. | 610. | 620. |
| 10 | 31 | 75 | 578. | 534. | 552. | 562. | 617. | 549. | 601. | 635. |
| 11 | 1 | 75 | 564. | 536. | 553. | 566. | 580. | 600. | 608. | 626. |
| 11 | 2 | 75 | 573. | 538. | 550. | 562. | 577. | 585. | 607. | 615. |
| 11 | 3 | 75 | 580. | 520. | 548. | 560. | 562. | 593. | 607. | 605. |
| 11 | 4 | 75 | 549. | 536. | 536. | 550. | 570. | 576. | 594. | 623. |
| 11 | 5 | 75 | 569. | 535. | 543. | 564. | 582. | 598. | 609. | 624. |
| 11 | 6 | 75 | 555. | 530. | 540. | 546. | 570. | 599. | 613. | 613. |
| 11 | 7 | 75 | 581. | 546. | 551. | 568. | 581. | 599. | ND | 617. |
| 11 | 8 | 75 | 590. | 545. | 575. | 595. | 634. | 607. | 616. | 620. |
| 11 | 9 | 75 | 544. | 531. | 546. | 550. | ND | 587. | 602. | 608. |
| 11 | 10 | 75 | 572. | 655. | 549. | 548. | 571. | 590. | 608. | 624. |
| 11 | 11 | 75 | 565. | 540. | 526. | 544. | 566. | 580. | 609. | 612. |
| 11 | 12 | 75 | 514. | 546. | 544. | 546. | 560. | 606. | 615. | 622. |
| 11 | 13 | 75 | 501. | 536. | 554. | ND | 563. | 579. | 620. | 623. |
| 11 | 14 | 75 | 572. | 556. | 534. | 544. | 567. | 606. | 617. | 621. |
| 11 | 15 | 75 | 570. | 543. | 554. | 539. | 566. | 595. | 613. | 610. |
| 11 | 16 | 75 | 549. | 554. | 554. | 554. | 601. | 605. | 617. | 627. |
| 11 | 17 | 75 | 529. | 546. | 547. | 550. | 560. | 591. | 609. | 618. |
| 11 | 18 | 75 | 565. | 541. | 555. | 541. | 564. | 592. | 616. | 574. |
| 11 | 19 | 75 | 542. | 526. | 534. | 542. | 566. | 592. | 602. | 614. |
| 11 | 20 | 75 | 563. | 542. | 547. | 546. | 576. | 604. | 626. | 632. |
| 11 | 23 | 75 | 533. | 534. | 526. | 535. | 553. | 588. | 619. | 618. |
| 11 | 26 | 75 | 556. | 543. | 541. | 543. | 556. | 579. | 605. | 620. |
| 12 | 2 | 75 | 527. | 525. | 540. | 563. | 603. | 577. | 568. | 613. |
| 12 | 5 | 75 | 614. | 495. | 542. | 534. | 520. | 573. | 595. | 606. |
| 12 | 8 | 75 | 553. | 522. | 511. | 535. | 543. | 546. | 579. | 596. |
| 12 | 11 | 75 | 560. | 523. | 539. | 538. | 538. | 561. | 570. | 591. |
| 12 | 14 | 75 | 559. | 518. | 523. | 554. | 491. | 534. | 567. | 585. |
| 12 | 17 | 75 | 505. | ND | 519. | 535. | 546. | 537. | 533. | 574. |
| 12 | 20 | 75 | 588. | 556. | 546. | 564. | 531. | 545. | 575. | 590. |
| 12 | 23 | 75 | 577. | ND | 535. | 532. | 546. | 557. | 600. | 592. |
| 12 | 31 | 75 | 572. | 550. | 566. | 538. | 555. | 566. | 569. | 650. |
| 1 | 3 | 76 | 573. | 547. | 540. | 554. | 539. | ND | 564. | 624. |
| 1 | 6 | 76 | 516. | 554. | 543. | 544. | 517. | 549. | 557. | 595. |
| 1 | 9 | 76 | 525. | 542. | ND | 542. | 542. | 530. | 551. | 575. |
| 1 | 12 | 76 | 549. | 546. | 541. | 570. | 546. | 539. | 557. | 579. |
| 1 | 15 | 76 | 563. | 563. | 554. | ND | 550. | 557. | 571. | 588. |
| 1 | 18 | 76 | 582. | 569. | 552. | 546. | 550. | ND | 566. | 593. |
| 1 | 21 | 76 | 532. | 577. | 569. | 561. | 557. | 578. | 586. | ND |
| 1 | 24 | 76 | 583. | 601. | 574. | 591. | 582. | 583. | 590. | 604. |
| 1 | 27 | 76 | 659. | 589. | 584. | 584. | 580. | 579. | 588. | 605. |
| 1 | 30 | 76 | 543. | 592. | 584. | 587. | 581. | 592. | 601. | 613. |

## Table B-11. Total phosphorus performance of the Corinne Waste Stabilization Lagoon System.

TOTAL PHOSPHORUS (MG/L) FROM EPA LAB

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23 | 75 | 7.1 | 5.2 | 4.2 | 3.8 | NS | ND | 2.5 | 2.3 |
| 1 | 24 | 75 | 6.6 | 5.3 | NS | 3.8 | NS | 2.9 | NS | 2.4 |
| 1 | 25 | 75 | 6.8 | 5.2 | 4.1 | 3.8 | 3.3 | NS | 2.6 | 2.2 |
| 1 | 26 | 75 | 7.3 | 5.3 | 4.3 | 3.9 | 3.5 | 3.0 | 2.7 | 2.3 |
| 1 | 27 | 75 | NS | 5.1 | 4.0 | 3.7 | 3.3 | NS | NS | 2.1 |
| 1 | 28 | 75 | 7.8 | NS | 4.3 | NS | NS | 3.0 | 2.6 | 2.2 |
| 1 | 29 | 75 | NS | 5.4 | 4.2 | 3.8 | NS | 3.0 | NS | 2.3 |
| 1 | 30 | 75 | 6.2 | 5.3 | 4.1 | 3.8 | 3.3 | 2.9 | NS | NS |
| 1 | 31 | 75 | 7.3 | 5.4 | 4.3 | 3.9 | 3.4 | 3.0 | 2.7 | 2.3 |
| 2 | 1 | 75 | NS | 5.5 | 4.2 | 4.0 | 3.6 | 3.0 | 2.7 | 2.6 |
| 2 | 1 | 75 |  | 5.5 | 4.2 | 4.0 | 3.6 | 3.0 | 2.7 | 2.4 |
| 2 | 2 | 75 | 7.9 | 5.4 | 4.3 | 4.1 | 3.5 | 3.0 | 2.6 | 2.3 |
| 2 | 3 | 75 | 6.1 | 4.9 | 4.6 | 4.1 | 3.8 | 3.1 | 2.7 | 2.3 |
| 2 | 4 | 75 | 6.9 | 5.3 | 4.7 | 4.1 | 3.8 | 3.1 | 2.6 | 2.4 |
| 2 | 5 | 75 | 6.5 | 5.4 | 4.6 | 4.0 | 3.7 | 3.1 | 2.5 | 2.3 |
| 2 | 6 | 75 | 5.8 | 5.4 | 4.9 | 4.2 | 3.7 | 3.4 | 2.9 | 2.6 |
| 2 | 7 | 75 | 6.2 | 5.5 | 4.6 | 4.1 | 3.8 | 3.5 | 2.7 | 2.3 |
| 2 | 8 | 75 | 7.9 | 5.5 | 4.6 | 4.4 | 3.7 | 3.3 | 3.0 | 2.5 |
| 2 | 9 | 75 | 7.1 | 5.6 | 4.9 | 4.3 | 3.8 | 3.3 | 2.9 | 2.5 |
| 2 | 10 | 75 | 4.8 | 5.4 | 4.6 | 4.2 | 3.6 | 3.2 | 2.7 | 2.2 |
| 2 | 11 | 75 | 3.6 | 5.3 | 4.3 | 3.9 | 3.7 | 3.2 | 2.8 | 2.2 |
| 2 | 12 | 75 | 2.9 | 5.3 | 4.8 | 4.2 | 3.7 | 3.1 | 2.7 | 2.0 |
| 2 | 13 | 75 | 2.3 | 5.1 | 4.7 | 4.1 | 3.7 | 3.3 | 2.7 | 2.0 |
| 2 | 14 | 75 | 5.1 | 4.7 | 4.5 | 4.2 | 3.7 | 3.3 | 2.6 | 1.9 |
| 2 | 15 | 75 | 2.4 | 4.7 | 4.7 | 4.2 | 3.8 | 3.3 | 2.9 | 1.8 |
| 2 | 16 | 75 | 2.8 | 4.8 | 4.7 | 4.2 | 3.7 | 3.3 | 3.0 | 1.8 |
| 2 | 17 | 75 | 3.3 | 5.0 | 4.9 | 4.5 | 4.0 | 3.0 | 2.7 | 1.5 |
| 2 | 18 | 75 | 4.2 | 4.5 | 4.5 | 4.1 | 3.6 | 3.1 | 2.6 | 1.3 |
| 2 | 19 | 75 | 3.2 | 4.4 | 4.4 | 4.0 | 3.6 | 3.0 | 1.7 | 1.3 |
| 2 | 20 | 75 | 3.8 | 4.5 | 4.6 | 4.6 | 3.6 | 3.2 | 2.8 | 1.5 |
| 2 | 21 | 75 | 3.8 | 4.3 | 4.5 | 4.4 | 3.7 | 3.2 | 2.7 | 1.6 |
| 2 | 22 | 75 | 3.3 | 4.4 | 4.5 | 4.4 | ND | 3.2 | 2.8 | 1.6 |
| 2 | 27 | 75 | 4.4 | 4.5 | 4.6 | 4.5 | 4.1 | 3.0 | 3.3 | 2.0 |
| 2 | 28 | 75 | 4.0 | 4.5 | 4.5 | 4.4 | 4.2 | 3.0 | 3.4 | 3.0 |
| 3 | 3 | 75 | 4.5 | 4.3 | 4.4 | 4.3 | 4.2 | 3.7 | 3.4 | 3.1 |
| 3 | 6 | 75 | 4.1 | 4.2 | 4.1 | 4.2 | 4.1 | 0.5 | 3.5 | 3.1 |
| 3 | 9 | 75 | 2.2 | 3.9 | 3.8 | 3.5 | 3.5 | 3.1 | 3.0 | 2.9 |
| 3 | 12 | 75 | 2.2 | 3.6 | 3.7 | 3.5 | 3.4 | 3.2 | 3.0 | 2.9 |
| 3 | 15 | 75 | ND | 4.3 | 2.7 | 3.6 | 3.5 | 3.4 | 3.1 | 2.9 |
| 3 | 18 | 75 | 4.3 | 3.8 | 3.9 | 3.8 | 3.6 | 3.4 | 3.0 | 3.0 |
| 3 | 21 | 75 | 3.7 | 4.0 | 4.1 | 4.1 | 4.0 | 3.7 | 3.4 | 3.1 |
| 3 | 24 | 75 | 3.0 | 3.9 | 0.1 | 4.2 | 4.2 | 3.4 | 3.5 | 3.0 |
| 3 | 28 | 75 | 2.7 | 3.3 | 3.6 | 3.5 | 3.4 | 3.0 | 2.8 | 2.6 |
| 3 | 31 | 75 | 1.9 | 3.1 | 3.4 | 3.4 | 3.4 | 3.1 | 2.8 | 2.6 |
| 4 | 2 | 75 | 2.5 | 2.9 | 3.3 | 3.4 | 3.6 | 3.2 | 2.9 | 2.5 |
| 4 | 5 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 4 | 8 | 75 | 6.2 | 3.3 | 3.5 | 3.7 | 4.0 | 3.9 | 3.6 | 3.4 |
| 4 | 11 | 75 | 2.7 | 3.1 | 3.3 | 3.6 | 3.7 | 3.6 | 3.6 | 3.4 |
| 4 | 14 | 75 | 3.6 | 3.1 | 3.2 | 3.3 | 3.6 | 3.7 | 3.5 | 3.3 |
| 4 | 15 | 75 | 5.7 | 2.9 | 3.0 | 3.1 | 3.5 | 3.3 | 3.2 | 3.1 |
| 4 | 16 | 75 | 3.6 | 2.9 | 3.1 | 3.1 | 3.4 | 3.3 | 3.1 | 3.1 |
| 4 | 17 | 75 | 4.4 | 3.2 | 3.2 | 3.3 | 3.5 | 3.4 | 3.3 | 3.2 |
| 4 | 18 | 75 | 3.0 | 3.4 | 3.6 | 3.4 | 3.2 | 3.5 | 3.3 | 3.2 |
| 4 | 19 | 75 | 2.5 | 3.2 | 3.2 | 3.1 | 3.4 | 3.4 | 3.2 | 3.3 |
| 4 | 20 | 75 | 3.6 | 2.9 | 3.0 | 2.9 | 3.1 | 3.0 | 3.0 | 3.0 |
| 4 | 21 | 75 | 3.1 | 2.9 | 3.1 | 2.9 | 3.1 | 3.1 | 3.0 | 2.9 |
| 4 | 22 | 75 | 4.0 | 2.9 | 2.9 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 4 | 23 | 75 | 2.8 | 2.7 | 2.8 | 2.8 | 2.8 | 2.8 | 2.7 | 2.8 |
| 4 | 24 | 75 | 2.9 | 2.8 | 2.8 | 2.9 | 2.9 | 2.8 | 2.6 | 2.7 |
| 4 | 25 | 75 | 3.7 | 2.9 | 3.1 | 3.0 | 3.1 | 3.0 | 2.7 | 3.0 |
| 4 | 26 | 75 | 3.2 | 3.1 | 3.0 | 3.1 | 3.1 | 3.0 | 2.8 | 3.0 |
| 4 | 27 | 75 | 3.4 | 3.0 | 3.0 | 2.9 | 3.0 | 2.9 | 2.8 | 2.9 |
| 4 | 28 | 75 | 4.1 | 3.0 | 3.0 | 3.0 | 3.0 | 2.9 | 2.8 | 3.1 |
| 4 | 29 | 75 | 4.0 | 3.0 | 3.0 | 2.9 | 2.9 | 2.8 | 2.7 | 2.9 |
| 4 | 30 | 75 | 3.1 | 3.0 | 3.0 | 2.8 | 2.9 | 2.9 | 2.7 | 2.8 |
| 5 | 1 | 75 | 3.2 | 2.9 | 2.9 | 2.8 | 2.8 | 2.8 | 2.7 | 2.8 |
| 5 | 2 | 75 | 3.6 | 3.1 | 3.2 | 2.9 | 3.1 | 3.0 | 2.7 | 2.8 |
| 5 | 3 | 75 | 4.2 | 2.9 | 2.8 | 2.9 | 2.9 | 3.0 | 2.8 | 2.8 |
| 5 | 4 | 75 | 4.0 | 3.1 | 3.0 | 2.9 | 3.0 | 2.9 | 2.8 | 2.9 |
| 5 | 5 | 75 | 3.7 | 3.0 | 3.0 | 2.9 | 3.0 | 2.9 | 2.8 | 2.9 |
| 5 | 6 | 75 | 4.2 | 3.0 | 3.0 | 2.8 | 2.9 | 2.8 | 2.8 | 2.8 |
| 5 | 7 | 75 | 3.0 | 3.1 | 2.9 | 2.7 | 2.9 | 2.9 | 2.7 | 2.8 |
| 5 | 8 | 75 | 3.3 | 2.8 | 2.8 | 2.8 | 2.8 | 2.7 | 2.8 | 2.8 |
| 5 | 9 | 75 | 2.7 | 3.2 | 3.0 | 2.7 | 2.8 | 2.8 | 2.8 | 2.9 |
| 5 | 10 | 75 | 3.8 | 3.1 | 2.9 | 2.8 | 2.9 | 2.9 | 2.9 | 2.8 |
| 5 | 11 | 75 | 4.4 | 3.0 | 2.8 | 2.6 | 2.7 | 2.6 | 2.7 | 2.7 |
| 5 | 12 | 75 | 4.5 | 2.9 | 2.8 | 2.7 | 2.8 | 2.8 | 2.8 | 2.8 |
| 5 | 13 | 75 | 5.2 | 2.8 | 2.8 | 2.5 | 2.7 | 2.8 | 2.6 | 2.8 |
| 5 | 16 | 75 | 4.6 | 2.4 | 2.3 | 2.3 | 2.3 | 2.2 | 2.4 | 2.7 |
| 5 | 19 | 75 | 5.5 | 2.2 | 2.3 | 2.1 | 2.2 | 1.7 | 2.3 | 2.0 |
| 5 | 22 | 75 | 3.7 | 2.6 | 2.6 | 2.3 | 2.0 | 2.3 | 2.0 | ND |
| 5 | 25 | 75 | 8.3 | 2.9 | 2.5 | 2.2 | 1.8 | 2.2 | 2.1 | 2.3 |
| 5 | 28 | 75 | 3.6 | 2.2 | 2.9 | 2.2 | 2.1 | 2.1 | 1.7 | 1.7 |
| 5 | 31 | 75 | 3.1 | 2.5 | 2.1 | 2.7 | 2.6 | 2.6 | 2.4 | 2.5 |
| 6 | 3 | 75 | 2.3 | 2.7 | 2.1 | 2.5 | 3.1 | 2.7 | 2.5 | 2.6 |
| 6 | 6 | 75 | 3.9 | 2.7 | 2.2 | 2.5 | 2.7 | 2.8 | 2.6 | 2.7 |
| 6 | 9 | 75 | 2.3 | 2.6 | 2.0 | 2.1 | 2.4 | 2.6 | 2.4 | 2.3 |
| 6 | 12 | 75 | 3.7 | 2.7 | 2.4 | 2.3 | 2.4 | 3.0 | 2.7 | 2.5 |
| 6 | 15 | 75 | 2.0 | 2.7 | 2.2 | 2.4 | 2.7 | 2.8 | 2.8 | 2.6 |
| 6 | 18 | 75 | 2.7 | 2.9 | 2.9 | 2.4 | 2.6 | 2.9 | 2.7 | 2.4 |
| 6 | 21 | 75 | 1.6 | 2.5 | 2.5 | 2.4 | 2.6 | 2.8 | 2.8 | 2.7 |
| 6 | 24 | 75 | 1.9 | 2.0 | 2.1 | 2.4 | 2.5 | 2.7 | 2.7 | 2.7 |
| 6 | 27 | 75 | 4.5 | 1.6 | 1.3 | 2.5 | 2.6 | 2.7 | 2.8 | 2.8 |
| 6 | 30 | 75 | 3.1 | 1.2 | 1.1 | 2.3 | 2.7 | 2.8 | 2.9 | 2.8 |
| 7 | 3 | 75 | 1.6 | 1.3 | 0.9 | 2.2 | 2.4 | 2.6 | 2.7 | 2.8 |
| 7 | 6 | 75 | 0.6 | 1.2 | 0.9 | 2.2 | 2.3 | 2.6 | 2.6 | 2.7 |
| 7 | 9 | 75 | 2.2 | 1.6 | 1.1 | 1.5 | 2.0 | 2.6 | 2.5 | 2.7 |
| 7 | 12 | 75 | 0.7 | 1.8 | 1.2 | 1.6 | 1.9 | 2.4 | 2.3 | 2.6 |
| 7 | 15 | 75 | 1.7 | 2.2 | 1.6 | 1.4 | 1.8 | 2.3 | 2.1 | 2.5 |
| 7 | 16 | 75 | 2.6 | 2.0 | 1.9 | 1.4 | 1.7 | 2.3 | 2.0 | 2.5 |
| 7 | 17 | 75 | 3.4 | 2.9 | 2.1 | 1.5 | 1.6 | 2.2 | 1.9 | 2.4 |

Table B-11. (Continued).

TOTAL PHOSPHORUS (MG/L) FROM EPA LAB

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 18 | 75 | 3.4 | 2.6 | 2.0 | 1.6 | 1.7 | 2.3 | 2.0 | 2.4 |
| 7 | 19 | 75 | 2.7 | 2.4 | 2.0 | 1.7 | 1.8 | 2.2 | 2.0 | 2.4 |
| 7 | 20 | 75 | 2.8 | 2.1 | 1.7 | 1.7 | 1.8 | 2.1 | 1.9 | 2.2 |
| 7 | 21 | 75 | 2.2 | 2.3 | 1.8 | 1.8 | 1.8 | 2.0 | 1.5 | 1.9 |
| 7 | 22 | 75 | 2.4 | 2.0 | 1.6 | 1.6 | 1.7 | 1.9 | 1.4 | 1.8 |
| 7 | 23 | 75 | 3.2 | 2.5 | 1.8 | 1.6 | 1.6 | 1.8 | 1.3 | 1.7 |
| 7 | 24 | 75 | 2.9 | 2.6 | 2.0 | 1.8 | 1.7 | 1.8 | 1.2 | 1.7 |
| 7 | 25 | 75 | 3.3 | 2.3 | 1.2 | 1.7 | 1.9 | 1.8 | 2.0 | 1.8 |
| 7 | 26 | 75 | 3.4 | 2.5 | 1.8 | 1.7 | 1.6 | 1.7 | 1.0 | 1.4 |
| 7 | 27 | 75 | 2.2 | 2.1 | 1.9 | 1.8 | 1.7 | 1.7 | 1.0 | 1.4 |
| 7 | 28 | 75 | 2.2 | 2.0 | 1.7 | 1.7 | 1.5 | 1.5 | 0.8 | 1.2 |
| 7 | 29 | 75 | 2.5 | 2.9 | 1.9 | 1.8 | 1.6 | 1.7 | 1.0 | 1.3 |
| 7 | 30 | 75 | 2.9 | 3.6 | 2.6 | 1.7 | 1.5 | 1.6 | 0.9 | 1.1 |
| 7 | 31 | 75 | 3.0 | 3.8 | 2.9 | 1.7 | 1.5 | 1.7 | 1.0 | 1.1 |
| 8 | 1 | 75 | 2.4 | 4.0 | 3.0 | 1.9 | 1.6 | 1.7 | 1.1 | 1.2 |
| 8 | 2 | 75 | 2.7 | 3.4 | 2.7 | 1.8 | 1.5 | 1.5 | 1.0 | 1.1 |
| 8 | 3 | 75 | 3.5 | 2.8 | 2.7 | 1.8 | 1.3 | 1.4 | 0.8 | 0.9 |
| 8 | 4 | 75 | 2.8 | 2.7 | 2.5 | 1.9 | 1.3 | 1.3 | 0.8 | 0.8 |
| 8 | 5 | 75 | 3.8 | 2.6 | 2.7 | 2.2 | 1.7 | 1.7 | 1.2 | 1.1 |
| 8 | 6 | 75 | 2.4 | 2.6 | 2.2 | 2.1 | 1.6 | 1.6 | 1.1 | 1.0 |
| 8 | 7 | 75 | 2.8 | 2.4 | 1.6 | 1.8 | 1.3 | 1.2 | 0.8 | 0.7 |
| 8 | 8 | 75 | 3.3 | 2.9 | 1.7 | 2.0 | 1.7 | 1.6 | 1.1 | 0.9 |
| 8 | 9 | 75 | 2.9 | 2.3 | 1.4 | 1.7 | 1.3 | 1.0 | 0.7 | 0.5 |
| 8 | 10 | 75 | 3.1 | 1.9 | 1.2 | 1.4 | 1.2 | 0.8 | 0.6 | 0.5 |
| 8 | 11 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 8 | 12 | 75 | 2.5 | 2.3 | 1.5 | 1.5 | 1.2 | 0.9 | 0.7 | 0.5 |
| 8 | 13 | 75 | 3.8 | 2.1 | 1.7 | 1.5 | 1.3 | 1.0 | 0.8 | 0.6 |
| 8 | 16 | 75 | 3.6 | 2.4 | 1.8 | 1.8 | 1.5 | 1.2 | 1.0 | 0.8 |
| 8 | 17 | 75 | 1.6 | 3.1 | 2.5 | 2.1 | 1.5 | 1.3 | 1.1 | 0.8 |
| 8 | 20 | 75 | 2.2 | 3.3 | 2.6 | 2.0 | 1.5 | 1.4 | 1.0 | 0.8 |
| 8 | 23 | 75 | 1.9 | 3.3 | 2.8 | 2.1 | 1.5 | 1.3 | 1.0 | 0.8 |
| 8 | 26 | 75 | 2.3 | 3.0 | 2.7 | 2.1 | 1.6 | 1.4 | 1.2 | 0.8 |
| 8 | 29 | 75 | 3.8 | 3.2 | 2.4 | 1.9 | 1.3 | 1.2 | 0.8 | 0.7 |
| 9 | 1 | 75 | 3.5 | 2.6 | 2.3 | 1.9 | 1.4 | 1.3 | 1.1 | 0.8 |
| 9 | 4 | 75 | 3.1 | 3.2 | 2.9 | 2.2 | 1.8 | 1.6 | 1.4 | 1.1 |
| 9 | 7 | 75 | 1.1 | 3.0 | 2.4 | 2.1 | 1.7 | 1.4 | 1.3 | 1.0 |
| 9 | 10 | 75 | 2.9 | 3.2 | 2.2 | 2.0 | 1.3 | 0.7 | 0.8 | 0.7 |
| 9 | 13 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 9 | 16 | 75 | 2.4 | 2.1 | 1.8 | 1.8 | 1.5 | 0.9 | 1.0 | 0.8 |
| 9 | 19 | 75 | 6.9 | 3.1 | 2.6 | 1.9 | 1.8 | 1.3 | 0.9 | 0.1 |
| 9 | 22 | 75 | 10.8 | 2.7 | 2.4 | 2.0 | 1.8 | 1.2 | 1.1 | 0.8 |
| 9 | 25 | 75 | 4.5 | 2.9 | 2.6 | 2.2 | 1.8 | 1.3 | 1.1 | 0.9 |
| 9 | 28 | 75 | 4.5 | 3.4 | 2.6 | 2.5 | 2.1 | 1.7 | 1.3 | 1.2 |
| 10 | 1 | 75 | 2.7 | 2.5 | 2.9 | 2.8 | 2.5 | 2.0 | 1.5 | 1.1 |
| 10 | 4 | 75 | 3.2 | 3.3 | 2.9 | 2.5 | 2.2 | 2.2 | 1.5 | 1.2 |
| 10 | 7 | 75 | 3.2 | 3.5 | 3.0 | 2.6 | 2.2 | 1.6 | 1.2 | 1.4 |
| 10 | 10 | 75 | 5.9 | 2.9 | 2.7 | 2.4 | 2.0 | 1.5 | 1.2 | 1.1 |
| 10 | 13 | 75 | 4.7 | 3.2 | 3.0 | 2.6 | 2.2 | 1.8 | 1.5 | 1.2 |
| 10 | 16 | 75 | 6.9 | 3.0 | 2.8 | 2.5 | 1.9 | 1.5 | 1.2 | 1.0 |
| 10 | 20 | 75 | 3.7 | 3.1 | 2.8 | 2.7 | 2.4 | 1.9 | 1.7 | 1.4 |
| 10 | 21 | 75 | 4.7 | 3.2 | 2.9 | 2.8 | 2.5 | 2.0 | 1.7 | 1.4 |
| 10 | 22 | 75 | 5.0 | 3.2 | 3.0 | 2.8 | 2.6 | 2.1 | 1.8 | 1.5 |
| 10 | 23 | 75 | 5.1 | 3.4 | 3.1 | 2.9 | 2.6 | 2.0 | 1.8 | 1.6 |
| 10 | 24 | 75 | 5.8 | 3.1 | 2.7 | 2.6 | 2.4 | 1.9 | 1.7 | 1.4 |
| 10 | 25 | 75 | 5.5 | 3.4 | 3.3 | 3.0 | 2.9 | 2.1 | 1.9 | 1.6 |
| 10 | 26 | 75 | 5.4 | 3.0 | 2.7 | 2.5 | 2.3 | 1.8 | 1.6 | 1.3 |
| 10 | 27 | 75 | 3.6 | 3.1 | 2.7 | 2.6 | 2.3 | 1.9 | 1.6 | 1.2 |
| 10 | 28 | 75 | 3.7 | 3.8 | 2.6 | 2.5 | 2.4 | 1.9 | 1.6 | 1.3 |
| 10 | 29 | 75 | 6.2 | 3.3 | 3.1 | 2.6 | 2.4 | 2.2 | 1.8 | 0.9 |
| 10 | 30 | 75 | 4.1 | 3.2 | 2.9 | 2.8 | 2.6 | 2.2 | 1.9 | 1.4 |
| 10 | 31 | 75 | 3.4 | 2.9 | 2.7 | 2.5 | 2.5 | 2.0 | 1.8 | 1.4 |
| 11 | 1 | 75 | 4.5 | 3.9 | 3.5 | 3.4 | 2.7 | 2.5 | 2.1 | 1.9 |
| 11 | 2 | 75 | 3.8 | 3.2 | 2.9 | 2.7 | 2.6 | 2.3 | 2.0 | 1.6 |
| 11 | 3 | 75 | 3.7 | 3.0 | 2.7 | 2.6 | 2.6 | 2.1 | 1.8 | 1.5 |
| 11 | 4 | 75 | 7.0 | 3.2 | 2.8 | 2.6 | 2.5 | 2.3 | 2.0 | 1.6 |
| 11 | 5 | 75 | 3.6 | 2.9 | 2.6 | 2.4 | 2.3 | 2.0 | 1.8 | 1.5 |
| 11 | 6 | 75 | 3.5 | 3.2 | 2.8 | 2.6 | 2.6 | 2.2 | 2.0 | ND |
| 11 | 7 | 75 | 4.5 | 3.5 | 3.1 | 3.0 | 2.8 | 2.6 | 2.2 | 1.8 |
| 11 | 8 | 75 | 4.1 | 3.2 | 2.9 | 2.7 | 2.6 | 2.2 | 2.0 | 1.6 |
| 11 | 9 | 75 | 7.1 | 3.9 | 3.4 | 3.2 | 3.1 | 2.7 | 2.5 | 2.1 |
| 11 | 10 | 75 | 6.0 | 4.7 | 3.5 | 3.3 | 3.1 | 2.8 | 2.6 | 2.1 |
| 11 | 11 | 75 | 7.4 | 4.1 | 3.7 | 3.4 | 3.4 | 3.1 | 2.7 | 2.3 |
| 11 | 12 | 75 | 4.5 | 3.6 | 3.1 | 3.1 | 3.4 | 3.0 | 2.7 | 2.2 |
| 11 | 13 | 75 | 5.0 | 4.0 | 3.6 | 3.1 | 3.3 | 2.7 | 2.7 | 2.3 |
| 11 | 14 | 75 | 5.5 | 4.2 | 3.5 | 3.5 | 3.5 | 3.3 | 2.9 | 1.8 |
| 11 | 15 | 75 | 4.2 | 3.6 | 3.2 | 3.1 | 3.1 | 2.8 | 2.6 | 2.0 |
| 11 | 16 | 75 | 7.5 | 3.3 | 2.8 | 2.8 | 2.7 | 2.4 | 2.3 | 1.8 |
| 11 | 17 | 75 | 7.4 | 3.4 | 3.0 | ND | 2.7 | ND | 2.4 | 1.9 |
| 11 | 18 | 75 | 5.6 | 3.6 | 3.1 | 3.0 | 3.0 | 2.8 | 2.6 | 2.1 |
| 11 | 19 | 75 | 8.0 | 3.8 | 3.3 | 3.1 | 3.1 | 2.8 | 2.6 | 2.1 |
| 11 | 20 | 75 | 9.0 | 3.9 | 3.3 | 3.2 | 3.1 | 2.8 | 2.5 | 1.9 |
| 11 | 23 | 75 | 9.2 | 3.6 | 2.9 | 2.9 | 2.9 | 2.7 | 2.4 | 2.1 |
| 11 | 26 | 75 | 1.8 | 3.6 | 3.1 | 3.0 | 2.9 | 2.7 | 2.5 | 2.2 |
| 12 | 2 | 75 | 7.3 | 3.6 | 3.3 | 3.1 | 3.3 | 3.0 | 2.6 | 2.4 |
| 12 | 5 | 75 | 5.0 | 3.8 | 3.2 | 3.1 | 2.9 | 2.8 | 2.7 | 2.4 |
| 12 | 8 | 75 | 7.8 | 4.4 | 4.0 | 3.7 | 3.7 | 3.4 | 3.2 | 2.9 |
| 12 | 11 | 75 | 4.9 | 4.2 | 3.7 | 3.5 | 3.4 | 3.1 | 2.9 | 2.7 |
| 12 | 14 | 75 | 3.8 | 4.1 | 3.7 | 3.8 | 3.4 | 3.2 | 3.2 | 3.1 |
| 12 | 17 | 75 | 4.6 | 4.1 | 3.6 | 3.4 | 3.5 | 3.4 | 3.2 | 2.9 |
| 12 | 20 | 75 | 3.5 | 4.5 | 4.0 | 3.7 | 3.5 | 3.3 | 3.1 | 2.8 |
| 12 | 23 | 75 | 5.4 | 4.3 | 3.9 | 3.7 | 3.5 | 3.2 | 3.1 | 3.0 |
| 12 | 31 | 75 | 6.6 | 4.4 | 4.1 | 4.1 | 3.7 | 3.6 | 3.3 | 3.4 |
| 1 | 3 | 76 | 4.3 | 4.6 | 4.2 | 4.0 | 4.0 | 3.7 | 3.4 | 3.3 |
| 1 | 6 | 76 | 7.3 | 4.9 | 4.3 | 4.1 | 3.9 | 3.6 | 3.5 | 3.2 |
| 1 | 9 | 76 | 7.1 | 5.1 | 4.4 | 4.4 | 4.2 | 3.9 | 3.6 | 3.2 |
| 1 | 12 | 76 | 4.8 | 4.9 | 4.3 | 4.3 | 4.1 | 4.2 | 3.7 | 3.3 |
| 1 | 15 | 76 | 4.0 | 5.0 | 4.4 | 4.2 | 4.4 | 4.2 | 3.6 | 3.4 |
| 1 | 18 | 76 | 2.6 | 5.1 | 1.0 | 1.2 | 1.4 | 4.0 | 3.8 | 3.4 |
| 1 | 21 | 76 | 4.5 | 5.1 | 4.6 | 4.4 | 4.3 | 4.3 | 4.0 | 3.5 |
| 1 | 24 | 76 | 8.7 | 5.8 | 4.8 | 4.9 | 4.8 | 4.4 | 4.1 | 3.8 |
| 1 | 27 | 76 | 4.9 | 5.5 | 1.5 | 4.9 | 4.9 | 4.3 | 4.2 | 3.8 |

Table B-12. Ammonia-nitrogen ($NH_3$-N) performance of the Corinne Waste Stabilization Lagoon System.

NH3-N (MG/L) FROM EPA LAB

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23 | 75 | 14.1 | ND | ND | ND | ND | ND | ND | 0.1 |
| 1 | 24 | 75 | 14.8 | ND | ND | ND | ND | ND | ND | 0.1 |
| 1 | 25 | 75 | 13.3 | ND | ND | ND | ND | ND | ND | 0.2 |
| 1 | 26 | 75 | 11.2 | 4.5 | 2.5 | 1.3 | 0.9 | 0.8 | 0.4 | 0.2 |
| 1 | 27 | 75 | NS | ND | ND | ND | ND | ND | ND | 0.2 |
| 1 | 28 | 75 | 11.9 | ND | ND | ND | ND | ND | ND | 0.4 |
| 1 | 29 | 75 | NS | 4.7 | 2.5 | 1.5 | NS | 1.5 | NS | 0.4 |
| 1 | 30 | 75 | 11.8 | ND | ND | ND | ND | ND | ND | NS |
| 1 | 31 | 75 | 13.7 | ND | ND | ND | ND | ND | ND | 0.2 |
| 2 | 1 | 75 | NS | ND | ND | ND | ND | ND | ND | 0.3 |
| 2 | 2 | 75 | 13.3 | ND | ND | ND | ND | ND | ND | 0.2 |
| 2 | 3 | 75 | 11.8 | 4.7 | 2.8 | 1.7 | 1.1 | 1.1 | 0.4 | <.1 |
| 2 | 4 | 75 | 14.2 | ND | ND | ND | ND | ND | ND | 0.2 |
| 2 | 5 | 75 | 13.0 | ND | ND | ND | ND | ND | ND | 0.4 |
| 2 | 6 | 75 | 13.1 | 5.5 | 3.2 | 1.9 | 0.9 | 0.9 | 0.4 | 0.3 |
| 2 | 7 | 75 | 14.3 | ND | ND | ND | ND | ND | ND | 0.3 |
| 2 | 8 | 75 | 13.5 | ND | ND | ND | ND | ND | ND | 0.3 |
| 2 | 9 | 75 | 11.5 | 5.5 | 3.2 | 1.7 | 0.6 | 0.5 | <.1 | <.1 |
| 2 | 10 | 75 | 8.3 | ND | ND | ND | ND | ND | ND | 0.3 |
| 2 | 11 | 75 | 6.3 | 5.3 | 3.0 | 1.4 | 0.5 | 0.2 | <.1 | <.1 |
| 2 | 12 | 75 | 4.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 13 | 75 | 4.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 14 | 75 | 6.8 | 4.6 | 3.6 | 1.7 | 0.3 | 0.1 | <.1 | <.1 |
| 2 | 15 | 75 | 2.7 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 16 | 75 | 3.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 17 | 75 | 3.8 | 3.9 | 3.2 | 1.6 | 0.2 | 0.1 | <.1 | <.1 |
| 2 | 18 | 75 | 4.5 | ND | ND | ND | ND | ND | ND | 0.2 |
| 2 | 19 | 75 | 5.6 | ND | ND | ND | ND | ND | ND | 0.1 |
| 2 | 20 | 75 | 8.1 | 3.6 | 3.0 | 1.5 | <.1 | <.1 | <.1 | <.1 |
| 2 | 21 | 75 | 4.6 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 22 | 75 | 8.4 | ND | ND | ND | ND | ND | ND | ND |
| 2 | 27 | 75 | 7.9 | 2.7 | 2.9 | 2.0 | 0.9 | 0.1 | 0.1 | <.1 |
| 2 | 28 | 75 | 7.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 3 | 3 | 75 | 8.3 | 2.5 | 2.8 | 2.8 | 2.6 | 1.1 | 0.6 | 0.4 |
| 3 | 6 | 75 | 9.0 | 1.5 | 2.0 | 2.0 | 2.0 | 0.6 | 0.8 | 0.5 |
| 3 | 9 | 75 | 2.9 | 1.0 | 1.3 | 1.1 | 1.2 | 1.0 | 0.8 | 0.8 |
| 3 | 12 | 75 | 6.0 | 1.0 | 1.3 | 0.5 | 0.3 | 0.1 | 0.2 | 0.6 |
| 3 | 15 | 75 | 12.7 | 3.7 | 3.1 | 2.1 | 0.9 | 0.2 | 0.2 | 0.7 |
| 3 | 18 | 75 | 6.2 | 3.6 | 3.4 | 3.2 | 2.5 | 0.7 | 0.1 | 0.4 |
| 3 | 21 | 75 | 7.1 | 3.8 | 3.6 | 3.3 | 2.8 | 0.4 | 0.7 | 0.8 |
| 3 | 24 | 75 | 7.3 | 4.2 | 3.9 | 3.6 | 3.3 | 0.1 | 0.7 | 0.8 |
| 3 | 28 | 75 | 5.5 | 4.3 | 4.3 | 3.9 | 3.2 | 0.9 | 0.6 | 0.9 |
| 3 | 31 | 75 | 3.1 | 4.7 | 4.0 | 4.7 | 4.0 | 1.7 | 1.1 | 0.1 |
| 4 | 2 | 75 | 3.8 | 4.4 | 4.7 | 4.4 | 4.0 | 1.8 | 1.4 | 0.2 |
| 4 | 5 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 4 | 8 | 75 | 9.3 | 2.4 | 3.0 | 2.6 | 2.0 | 1.1 | 1.5 | 0.4 |
| 4 | 11 | 75 | 8.3 | 1.6 | 2.1 | 1.8 | 1.8 | 1.0 | 1.7 | 0.6 |
| 4 | 14 | 75 | 9.0 | 0.2 | 0.2 | 0.8 | 0.5 | 0.8 | 0.5 | 0.8 |
| 4 | 15 | 75 | 9.4 | ND | ND | ND | ND | ND | ND | 0.1 |
| 4 | 16 | 75 | 6.9 | ND | ND | ND | ND | ND | ND | 0.2 |
| 4 | 17 | 75 | 8.6 | 0.2 | 0.7 | 0.1 | 0.3 | 0.1 | 0.0 | 0.0 |
| 4 | 18 | 75 | 6.2 | ND | ND | ND | ND | ND | ND | 0.2 |
| 4 | 19 | 75 | 4.1 | ND | ND | ND | ND | ND | ND | 0.1 |
| 4 | 20 | 75 | 4.0 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 |
| 4 | 21 | 75 | 5.9 | ND | ND | ND | ND | ND | ND | 0.2 |
| 4 | 22 | 75 | 4.1 | ND | ND | ND | ND | ND | ND | 0.6 |
| 4 | 23 | 75 | 6.7 | 0.5 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 |
| 4 | 24 | 75 | 4.6 | ND | ND | ND | ND | ND | ND | 0.2 |
| 4 | 25 | 75 | 6.7 | ND | ND | ND | ND | ND | ND | 0.1 |
| 4 | 26 | 75 | 4.8 | 0.3 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4 | 27 | 75 | 4.9 | ND | ND | ND | ND | ND | ND | 0.1 |
| 4 | 28 | 75 | 4.0 | ND | ND | ND | ND | ND | ND | 0.0 |
| 4 | 29 | 75 | 4.7 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 |
| 4 | 30 | 75 | 4.9 | ND | ND | ND | ND | ND | ND | 0.1 |
| 5 | 1 | 75 | 5.5 | ND | ND | ND | ND | ND | ND | 0.1 |
| 5 | 2 | 75 | 4.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5 | 3 | 75 | 5.2 | ND | ND | ND | ND | ND | ND | 0.1 |
| 5 | 4 | 75 | 5.2 | ND | ND | ND | ND | ND | ND | 0.1 |
| 5 | 5 | 75 | 6.6 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 5 | 6 | 75 | 6.1 | ND | ND | ND | ND | ND | ND | 0.2 |
| 5 | 7 | 75 | 5.5 | ND | ND | ND | ND | ND | ND | 0.3 |
| 5 | 8 | 75 | 6.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| 5 | 9 | 75 | 4.8 | ND | ND | ND | ND | ND | ND | 0.1 |
| 5 | 10 | 75 | 4.9 | ND | ND | ND | ND | ND | ND | 0.1 |
| 5 | 11 | 75 | 5.6 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5 | 12 | 75 | 7.4 | ND | ND | ND | ND | ND | ND | 0.2 |
| 5 | 13 | 75 | 6.7 | ND | ND | ND | ND | ND | ND | 0.1 |
| 5 | 16 | 75 | 13.5 | 0.2 | 0.1 | 0.1 | 0.3 | 0.0 | 0.0 | 0.0 |
| 5 | 19 | 75 | 11.6 | 0.1 | 0.1 | 0.3 | 0.7 | 0.7 | 0.1 | 0.1 |
| 5 | 22 | 75 | 9.5 | 0.0 | 0.6 | 1.0 | 1.2 | 0.8 | 0.1 | ND |
| 5 | 25 | 75 | 8.6 | 0.2 | 0.1 | 1.1 | 1.2 | 0.9 | 0.0 | 0.0 |
| 5 | 28 | 75 | 7.6 | 1.3 | 0.0 | 0.0 | 1.6 | 1.4 | 0.0 | 0.0 |
| 5 | 31 | 75 | 3.5 | 0.2 | 0.2 | 1.4 | 1.5 | 1.1 | 0.4 | 0.4 |
| 6 | 3 | 75 | 3.5 | 0.5 | 0.2 | 1.3 | 1.9 | 1.4 | 0.7 | 0.6 |
| 6 | 6 | 75 | 5.5 | 0.5 | 0.6 | 2.3 | 2.1 | 1.5 | 0.8 | 0.8 |
| 6 | 9 | 75 | 3.9 | 1.3 | 0.5 | 1.8 | 2.1 | 1.7 | 0.7 | 0.7 |
| 6 | 12 | 75 | 4.7 | 0.3 | 0.2 | 1.8 | 2.0 | 2.1 | 1.2 | 1.0 |
| 6 | 15 | 75 | 1.6 | <.1 | 0.1 | 1.6 | 1.9 | 1.8 | 1.1 | 0.9 |
| 6 | 18 | 75 | 2.9 | 0.6 | 0.6 | 1.5 | 2.0 | 1.9 | 1.4 | 1.2 |
| 6 | 21 | 75 | 2.2 | 0.5 | 0.5 | 1.4 | 2.1 | 2.6 | 2.2 | 1.7 |
| 6 | 24 | 75 | 4.2 | 0.3 | 0.2 | 1.3 | 1.6 | 1.6 | 1.7 | 1.7 |
| 6 | 27 | 75 | 0.5 | <.1 | <.1 | 1.2 | 1.7 | 1.2 | 1.6 | 1.3 |
| 6 | 30 | 75 | 1.7 | <.1 | <.1 | 1.1 | 1.5 | 0.7 | 1.1 | 1.0 |
| 7 | 3 | 75 | 3.6 | <.1 | <.1 | 1.2 | 1.5 | 1.3 | 1.2 | 0.9 |
| 7 | 6 | 75 | 0.3 | <.1 | <.1 | 1.4 | 1.4 | 1.4 | 0.9 | 0.9 |
| 7 | 9 | 75 | 4.1 | 0.2 | 0.1 | 0.7 | 1.0 | 1.1 | 0.7 | 0.9 |
| 7 | 12 | 75 | 0.8 | <.1 | <.1 | 0.7 | 0.6 | 0.8 | <.1 | 0.1 |
| 7 | 15 | 75 | 2.0 | <.1 | <.1 | <.1 | 0.5 | 1.6 | 0.2 | 0.5 |
| 7 | 16 | 75 | 2.3 | ND | ND | ND | ND | ND | ND | ND |
| 7 | 17 | 75 | 4.3 | ND | ND | ND | ND | ND | ND | ND |
| 7 | 18 | 75 | 3.6 | 0.1 | 0.1 | 0.1 | 0.6 | 0.3 | 0.1 | 0.2 |

Table B-12. (Continued).

NH3-N (MG/L) FROM EPA LAB

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 19 | 75 | 2.9 | ND | ND | ND | ND | ND | ND | 0.1 |
| 7 | 20 | 75 | 3.0 | ND | ND | ND | ND | ND | ND | 0.1 |
| 7 | 21 | 75 | 2.3 | 0.1 | <.1 | 0.2 | 0.3 | 0.3 | <.1 | <.1 |
| 7 | 22 | 75 | 2.4 | ND | ND | ND | ND | ND | ND | 0.1 |
| 7 | 23 | 75 | 3.7 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 24 | 75 | 4.3 | 0.2 | <.1 | <.1 | 0.1 | <.1 | <.1 | <.1 |
| 7 | 25 | 75 | 4.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 26 | 75 | 5.7 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 27 | 75 | 1.8 | <.1 | <.1 | <.1 | 0.1 | <.1 | <.1 | 0.1 |
| 7 | 28 | 75 | 3.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 29 | 75 | 3.5 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 30 | 75 | 2.9 | 0.8 | 0.4 | <.1 | 0.1 | <.1 | <.1 | <.1 |
| 7 | 31 | 75 | 4.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 1 | 75 | 5.7 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 2 | 75 | 4.7 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 8 | 3 | 75 | 3.9 | ND | ND | ND | ND | ND | ND | 0.1 |
| 8 | 4 | 75 | 2.7 | ND | ND | ND | ND | ND | ND | 0.1 |
| 8 | 5 | 75 | 3.9 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 6 | 75 | 6.1 | ND | ND | ND | ND | ND | ND | 0.1 |
| 8 | 7 | 75 | 4.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 8 | 75 | 4.8 | 0.9 | 0.6 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 9 | 75 | 4.0 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 10 | 75 | 3.7 | ND | ND | ND | ND | ND | ND | 0.1 |
| 8 | 11 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 8 | 12 | 75 | 2.9 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 13 | 75 | 4.2 | ND | ND | ND | ND | ND | ND | 0.1 |
| 8 | 14 | 75 | 4.7 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 17 | 75 | 1.9 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | 0.3 |
| 8 | 20 | 75 | 6.6 | 0.2 | 0.4 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 |
| 8 | 23 | 75 | 5.3 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.3 |
| 8 | 26 | 75 | 5.5 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 8 | 29 | 75 | 4.9 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 9 | 1 | 75 | 6.1 | 0.2 | <.1 | <.1 | 0.1 | 0.1 | 0.1 | <.1 |
| 9 | 4 | 75 | 9.6 | 0.1 | <.1 | <.1 | 0.1 | <.1 | <.1 | <.1 |
| 9 | 7 | 75 | 1.9 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 9 | 10 | 75 | 10.7 | 0.1 | 0.1 | 0.1 | 0.1 | <.1 | <.1 | <.1 |
| 9 | 13 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 9 | 16 | 75 | 7.4 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 |
| 9 | 19 | 75 | 9.6 | 0.1 | 0.1 | <.1 | 0.1 | <.1 | <.1 | <.1 |
| 9 | 22 | 75 | 26.0 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| 9 | 25 | 75 | 8.7 | 0.1 | 0.1 | 0.1 | <.1 | 0.1 | <.1 | 0.1 |
| 9 | 28 | 75 | 5.3 | <.1 | <.1 | <.1 | <.1 | 0.2 | 0.1 | 0.1 |
| 10 | 1 | 75 | 4.6 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 10 | 4 | 75 | 4.7 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 |
| 10 | 7 | 75 | 5.3 | 0.3 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 10 | 75 | 17.2 | 1.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 10 | 13 | 75 | 9.1 | 0.1 | 0.1 | 0.4 | 0.5 | 0.1 | 0.1 | 0.1 |
| 10 | 16 | 75 | 10.7 | 1.5 | 0.6 | 0.4 | 0.7 | 0.6 | 0.5 | 0.4 |
| 10 | 20 | 75 | 11.7 | ND | ND | ND | ND | ND | ND | 0.5 |
| 10 | 21 | 75 | 7.8 | ND | ND | ND | ND | ND | ND | 0.5 |
| 10 | 22 | 75 | 8.1 | 0.8 | 0.3 | 0.3 | 0.4 | 0.5 | 0.1 | 0.2 |
| 10 | 23 | 75 | 8.3 | ND | ND | ND | ND | ND | ND | 0.1 |
| 10 | 24 | 75 | 1.7 | ND | ND | ND | ND | ND | ND | 0.2 |
| 10 | 25 | 75 | 11.9 | 1.5 | 0.1 | 0.6 | 0.9 | 0.3 | 0.1 | 0.1 |
| 10 | 26 | 75 | 9.2 | ND | ND | ND | ND | ND | ND | 0.5 |
| 10 | 27 | 75 | 4.0 | ND | ND | ND | ND | ND | ND | 0.2 |
| 10 | 28 | 75 | 5.6 | 0.7 | 0.3 | 0.7 | 1.1 | 0.6 | 0.3 | 0.3 |
| 10 | 29 | 75 | 6.1 | ND | ND | ND | ND | ND | ND | 0.4 |
| 10 | 30 | 75 | 7.3 | ND | ND | ND | ND | ND | ND | 0.2 |
| 10 | 31 | 75 | 6.8 | 0.2 | 0.1 | 0.1 | 0.6 | 0.3 | 0.1 | 0.1 |
| 11 | 1 | 75 | 7.6 | ND | ND | ND | ND | ND | ND | 0.2 |
| 11 | 2 | 75 | 7.5 | ND | ND | ND | ND | ND | ND | 0.2 |
| 11 | 3 | 75 | 8.8 | 3.6 | 0.2 | 0.2 | 0.4 | 0.5 | 0.2 | 0.2 |
| 11 | 4 | 75 | 8.9 | ND | ND | ND | ND | ND | ND | 0.1 |
| 11 | 5 | 75 | 10.7 | ND | ND | ND | ND | ND | ND | 0.1 |
| 11 | 6 | 75 | 9.4 | 3.4 | 0.2 | 0.3 | 0.3 | 0.3 | 0.2 | ND |
| 11 | 7 | 75 | 8.5 |  |  |  |  |  |  | 0.2 |
| 11 | 8 | 75 | 10.1 |  |  |  |  |  |  | 0.3 |
| 11 | 9 | 75 | 9.0 | 0.5 | 0.4 | 0.1 | 0.4 | 0.4 | 0.1 | 0.1 |
| 11 | 10 | 75 | 10.7 |  |  |  |  |  |  | 0.3 |
| 11 | 11 | 75 | 9.9 |  |  |  |  |  |  | 0.3 |
| 11 | 12 | 75 | 8.7 | 0.9 | 0.2 | 0.1 | 0.6 | 0.8 | 0.1 | 0.1 |
| 11 | 13 | 75 | 9.4 |  |  |  |  |  |  | 0.2 |
| 11 | 14 | 75 | 10.4 |  |  |  |  |  |  | 0.2 |
| 11 | 15 | 75 | 1.5 | 1.0 | 0.1 | 0.1 | 0.7 | 0.7 | 0.1 | 0.1 |
| 11 | 16 | 75 | 14.4 |  |  |  |  |  |  | 0.1 |
| 11 | 17 | 75 | 11.5 |  |  |  |  |  |  | 0.2 |
| 11 | 18 | 75 | 12.5 | 1.0 | 0.2 | 0.2 | 0.6 | 0.6 | 0.1 | 0.1 |
| 11 | 19 | 75 | 3.5 |  |  |  |  |  |  | 0.1 |
| 11 | 20 | 75 | 14.2 |  |  |  |  |  |  | 0.1 |
| 11 | 23 | 75 | 12.9 | 1.4 | 0.2 | 0.2 | 0.7 | 1.0 | 0.2 | 0.1 |
| 11 | 26 | 75 | 13.0 | 1.0 | 0.4 | 0.3 | 0.6 | 0.9 | 0.3 | 0.1 |
| 12 | 2 | 75 | 15.1 | 2.4 | 0.7 | 0.4 | 0.8 | 0.9 | 0.1 | 0.1 |
| 12 | 5 | 75 | 12.0 | 2.4 | 0.7 | 0.3 | 0.6 | 0.7 | 0.3 | 0.1 |
| 12 | 8 | 75 | 11.0 | 2.7 | 0.9 | 0.3 | 0.4 | 0.4 | 0.1 | 0.1 |
| 12 | 11 | 75 | 16.3 | 2.7 | 1.0 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 |
| 12 | 14 | 75 | 10.5 | 2.9 | 1.4 | 0.5 | 0.3 | 0.2 | 0.1 | 0.1 |
| 12 | 17 | 75 | 9.3 | 2.9 | 1.1 | 0.2 | <.1 | <.1 | <.1 | <.1 |
| 12 | 20 | 75 | 5.4 | 3.2 | 1.4 | 0.5 | 0.1 | <.1 | <.1 | <.1 |
| 12 | 23 | 75 | 9.5 | 3.5 | 1.7 | 0.9 | 0.1 | <.1 | <.1 | <.1 |
| 12 | 31 | 75 | 16.0 | 4.0 | 2.4 | 1.3 | 0.3 | <.1 | <.1 | <.1 |
| 1 | 3 | 76 | 25.6 | 4.8 | 2.6 | 1.6 | 0.9 | 0.2 | <.1 | 0.1 |
| 1 | 6 | 76 | 14.6 | 4.0 | 2.7 | 1.9 | 1.1 | 0.4 | 0.1 | <.1 |
| 1 | 9 | 76 | 11.9 | 5.3 | 3.1 | 2.1 | 1.3 | 0.6 | 0.1 | 0.1 |
| 1 | 12 | 76 | 16.6 | 6.0 | 3.7 | 2.3 | 1.2 | 1.0 | 0.2 | 0.1 |
| 1 | 15 | 76 | 12.3 | 6.6 | 4.2 | 2.7 | 1.9 | 1.3 | 0.3 | 0.1 |
| 1 | 18 | 76 | 8.4 | 7.1 | 4.6 | 3.3 | 2.2 | 1.6 | 0.5 | 0.1 |
| 1 | 21 | 76 | 14.6 | 7.2 | 4.8 | 3.5 | 2.3 | 1.8 | 0.4 | <.1 |
| 1 | 24 | 76 | 14.9 | 8.3 | 5.2 | 3.8 | 2.6 | 1.8 | 0.3 | 0.1 |
| 1 | 27 | 76 | 10.5 | 9.3 | 6.0 | 4.3 | 3.2 | 2.1 | 0.6 | 0.1 |
| 1 | 30 | 76 | ND | ND | ND | ND | ND | ND | ND | ND |

Table B-13. Nitrite-nitrogen ($NO_2$-N) performance of each pond in the Corinne Waste Stabilization Lagoon System.

NO2-N (MG/L) FROM EPA LAB

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 1 | 24 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 1 | 25 | 75 | <.1 | ND | ND | ND | ND | ND | ND | 0.1 |
| 1 | 26 | 75 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | <.1 | <.1 | <.1 |
| 1 | 27 | 75 | NS | ND | ND | ND | ND | ND | ND | 0.1 |
| 1 | 28 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | 0.1 |
| 1 | 29 | 75 | NS | 0.1 | 0.1 | 0.1 | NS | 0.1 | NS | 0.1 |
| 1 | 30 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | NS |
| 1 | 31 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | 0.1 |
| 2 | 1 | 75 | NS | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 2 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 3 | 75 | 0.2 | 0.1 | 0.1 | 0.1 | <.1 | <.1 | <.1 | <.1 |
| 2 | 4 | 75 | 0.5 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 5 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 6 | 75 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 2 | 7 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 8 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 9 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 2 | 10 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 11 | 75 | 0.4 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 2 | 12 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 13 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 14 | 75 | 0.4 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 2 | 15 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 16 | 75 | 0.5 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 17 | 75 | 0.5 | 0.2 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 2 | 18 | 75 | 0.5 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 19 | 75 | 0.6 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 20 | 75 | 0.7 | 0.2 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 2 | 21 | 75 | 0.5 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 22 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 27 | 75 | 0.4 | 0.2 | 0.1 | 0.1 | 0.1 | <.1 | <.1 | <.1 |
| 2 | 28 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 3 | 3 | 75 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | <.1 | <.1 | <.1 |
| 3 | 6 | 75 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | <.1 | <.1 | <.1 |
| 3 | 9 | 75 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 3 | 12 | 75 | 0.4 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 3 | 15 | 75 | 0.5 | 0.7 | 0.2 | 0.2 | 0.1 | <.1 | <.1 | 0.1 |
| 3 | 18 | 75 | 0.1 | 0.1 | 0.2 | 0.3 | 0.1 | <.1 | <.1 | <.1 |
| 3 | 21 | 75 | 0.4 | <.1 | <.1 | 0.3 | 0.1 | 0.1 | <.1 | <.1 |
| 3 | 24 | 75 | 0.4 | 0.1 | <.1 | 0.1 | <.1 | <.1 | <.1 | <.1 |
| 3 | 28 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 3 | 31 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 2 | 75 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 5 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 4 | 8 | 75 | 0.4 | 0.2 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 11 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 14 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 15 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 16 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 17 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 18 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 19 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 20 | 75 | 0.4 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 21 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 22 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 23 | 75 | 0.1 | <.1 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 24 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 25 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 26 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 27 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 28 | 75 | 0.6 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 29 | 75 | 0.4 | 0.2 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 30 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 1 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 2 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 5 | 3 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 4 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 5 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 5 | 6 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 7 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 8 | 75 | 0.4 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 5 | 9 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 10 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 11 | 75 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 5 | 12 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 13 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 16 | 75 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 5 | 19 | 75 | 0.2 | <.1 | <.1 | 0.1 | <.1 | <.1 | <.1 | <.1 |
| 5 | 22 | 75 | 0.3 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | ND |
| 5 | 25 | 75 | 0.2 | <.1 | <.1 | 0.2 | <.1 | <.1 | <.1 | <.1 |
| 5 | 28 | 75 | 0.3 | <.1 | <.1 | <.1 | 0.1 | <.1 | <.1 | 0.2 |
| 5 | 31 | 75 | 0.2 | <.1 | <.1 | 0.2 | <.1 | <.1 | <.1 | <.1 |
| 6 | 3 | 75 | 0.2 | <.1 | <.1 | 0.4 | <.1 | <.1 | <.1 | <.1 |
| 6 | 6 | 75 | 0.3 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 6 | 9 | 75 | 0.1 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 6 | 12 | 75 | 1.0 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | <.1 |
| 6 | 15 | 75 | 0.2 | 0.1 | <.1 | 0.1 | 0.2 | 0.1 | 0.1 | <.1 |
| 6 | 18 | 75 | 0.3 | 0.1 | <.1 | <.1 | 0.2 | 0.1 | <.1 | <.1 |
| 6 | 21 | 75 | 0.2 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 6 | 24 | 75 | 0.3 | <.1 | <.1 | <.1 | 0.3 | 0.1 | 0.1 | <.1 |
| 6 | 27 | 75 | 0.5 | <.1 | <.1 | <.1 | 0.1 | 0.1 | <.1 | <.1 |
| 6 | 30 | 75 | 0.3 | <.1 | <.1 | <.1 | 0.2 | 0.2 | 0.1 | <.1 |
| 7 | 3 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 7 | 6 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 7 | 9 | 75 | 0.3 | <.1 | <.1 | 0.2 | 0.2 | 0.2 | 0.1 | <.1 |
| 7 | 12 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 7 | 15 | 75 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 7 | 16 | 75 | 0.8 | ND | ND | ND | ND | ND | ND | ND |
| 7 | 17 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | ND |
| 7 | 18 | 75 | 0.2 | <.1 | <.1 | 0.1 | 0.3 | 0.1 | <.1 | <.1 |

Table B-13. (Continued).

NO2-N (MG/L) FROM EPA LAB

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 19 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 20 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | 0.2 |
| 7 | 21 | 75 | 0.2 | <.1 | <.1 | 0.2 | 0.3 | <.1 | <.1 | <.1 |
| 7 | 22 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 23 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 24 | 75 | 0.2 | <.1 | <.1 | <.1 | 0.4 | 0.1 | 0.1 | <.1 |
| 7 | 25 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 26 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 27 | 75 | 0.4 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 7 | 28 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 29 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 30 | 75 | 0.5 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 7 | 31 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 1 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 2 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 3 | 75 | 0.5 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 4 | 75 | 0.6 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 5 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 6 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 7 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 8 | 75 | <.1 | <.1 | <.1 | 0.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 9 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 10 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 11 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 8 | 12 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 13 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 14 | 75 | 0.3 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 17 | 75 | 0.4 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 20 | 75 | 0.3 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 23 | 75 | 0.3 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 26 | 75 | 0.3 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 29 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 9 | 1 | 75 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 9 | 4 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 9 | 7 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | 0.1 |
| 9 | 10 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | 0.2 |
| 9 | 13 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 9 | 16 | 75 | 0.2 | 0.2 | 0.1 | 1.6 | 0.2 | 0.2 | 0.1 | 0.1 |
| 9 | 19 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 9 | 22 | 75 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 |
| 9 | 25 | 75 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 9 | 28 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 1 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 4 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 7 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 10 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 13 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 16 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 20 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 10 | 21 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 10 | 22 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 23 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 10 | 24 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 10 | 25 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 26 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 10 | 27 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 10 | 28 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 29 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 10 | 30 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 10 | 31 | 75 | 0.2 | 0.1 | <.1 | 0.1 | 0.1 | 0.1 | <.1 | <.1 |
| 11 | 1 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 11 | 2 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 11 | 3 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 11 | 4 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 11 | 5 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 11 | 6 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | ND |
| 11 | 7 | 75 | <.1 |  |  |  |  |  |  | <.1 |
| 11 | 8 | 75 | <.1 |  |  |  |  |  |  | <.1 |
| 11 | 9 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 11 | 10 | 75 | <.1 |  |  |  |  |  |  | <.1 |
| 11 | 11 | 75 | <.1 |  |  |  |  |  |  | <.1 |
| 11 | 12 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 11 | 13 | 75 | <.1 |  |  |  |  |  |  | <.1 |
| 11 | 14 | 75 | <.1 |  |  |  |  |  |  | <.1 |
| 11 | 15 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | 0.2 | <.1 | <.1 |
| 11 | 16 | 75 | 0.2 |  |  |  |  |  |  | <.1 |
| 11 | 17 | 75 | <.1 |  |  |  |  |  |  | <.1 |
| 11 | 18 | 75 | 0.2 | <.1 | <.1 | <.1 | <.1 | 0.1 | <.1 | <.1 |
| 11 | 19 | 75 | <.1 |  |  |  |  |  |  | <.1 |
| 11 | 20 | 75 | <.1 |  |  |  |  |  |  | <.1 |
| 11 | 21 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 11 | 25 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 12 | 2 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 12 | 5 | 75 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 12 | 8 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 12 | 11 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 12 | 14 | 75 | 0.5 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 12 | 17 | 75 | 0.3 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | <.1 | <.1 |
| 12 | 20 | 75 | 0.5 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | <.1 | <.1 |
| 12 | 23 | 75 | 0.3 | 0.2 | 0.1 | 0.1 | <.1 | 0.2 | <.1 | <.1 |
| 12 | 31 | 75 | <.1 | 0.1 | 0.1 | <.1 | <.1 | 0.2 | <.1 | <.1 |
| 1 | 3 | 76 | <.1 | 0.1 | 0.1 | <.1 | <.1 | 0.2 | <.1 | <.1 |
| 1 | 6 | 76 | <.1 | 0.2 | 0.2 | <.1 | 0.1 | 0.2 | 0.1 | <.1 |
| 1 | 9 | 76 | <.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | <.1 |
| 1 | 12 | 76 | 0.7 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 |
| 1 | 15 | 76 | 0.5 | <.1 | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | <.1 |
| 1 | 18 | 76 | 0.5 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 1 | 21 | 76 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | <.1 | 0.1 | <.1 |
| 1 | 24 | 76 | 0.4 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 1 | 27 | 76 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 1 | 30 | 76 | ND | ND | ND | ND | ND | ND | ND | ND |

Table B-14. Nitrate-nitrogen ($NO_3$-N) performance of the Corinne Waste Stabilization Lagoon System.

NO3-N (MG/L) FROM EPA LAB

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 1 | 24 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | 0.1 |
| 1 | 25 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | 0.1 |
| 1 | 26 | 75 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | <.1 |
| 1 | 27 | 75 | NS | ND | ND | ND | ND | ND | ND | 0.1 |
| 1 | 28 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | 0.1 |
| 1 | 29 | 75 | NS | 0.1 | 0.1 | 0.1 | NS | 0.1 | NS | 0.1 |
| 1 | 30 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | NS |
| 1 | 31 | 75 | 0.5 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 1 | 75 | NS | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 2 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 3 | 75 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 2 | 4 | 75 | 1.1 | ND | ND | ND | ND | ND | ND | 0.1 |
| 2 | 5 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 6 | 75 | 0.4 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 2 | 7 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 8 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | 0.1 |
| 2 | 9 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 2 | 10 | 75 | 1.7 | ND | ND | ND | ND | ND | ND | 0.1 |
| 2 | 11 | 75 | 1.9 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 2 | 12 | 75 | 2.5 | ND | ND | ND | ND | ND | ND | 0.1 |
| 2 | 13 | 75 | 3.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 14 | 75 | 1.7 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 2 | 15 | 75 | 2.5 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 16 | 75 | 2.7 | ND | ND | ND | ND | ND | ND | 0.1 |
| 2 | 17 | 75 | 2.7 | 0.1 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 2 | 18 | 75 | 2.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 19 | 75 | 2.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 20 | 75 | 1.9 | 0.5 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 2 | 21 | 75 | 2.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 22 | 75 | 2.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 2 | 27 | 75 | 1.2 | 0.5 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 2 | 28 | 75 | 1.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 3 | 3 | 75 | 1.0 | 0.6 | 0.4 | 0.2 | 0.1 | 0.1 | 0.1 | <.1 |
| 3 | 6 | 75 | 0.5 | 0.7 | 0.4 | 0.3 | 0.2 | 0.1 | 0.1 | <.1 |
| 3 | 9 | 75 | 3.6 | 0.7 | 0.4 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 |
| 3 | 12 | 75 | 3.6 | 0.7 | 0.4 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 |
| 3 | 15 | 75 | 1.9 | 0.1 | 0.5 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 |
| 3 | 18 | 75 | 2.7 | <.1 | <.1 | <.1 | <.1 | 0.2 | <.1 | <.1 |
| 3 | 21 | 75 | 1.9 | 0.3 | 0.3 | 0.1 | <.1 | <.1 | <.1 | <.1 |
| 3 | 24 | 75 | 2.3 | 0.6 | 0.2 | 0.1 | 0.1 | 0.1 | <.1 | <.1 |
| 3 | 28 | 75 | 4.1 | 1.2 | 0.5 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 |
| 3 | 31 | 75 | 5.1 | 0.9 | 0.3 | 0.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 2 | 75 | 5.2 | 1.1 | 0.4 | 0.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 5 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 4 | 8 | 75 | 3.4 | 1.1 | 0.5 | 0.3 | <.1 | <.1 | <.1 | <.1 |
| 4 | 11 | 75 | 3.1 | 1.1 | 0.5 | 0.2 | <.1 | <.1 | <.1 | <.1 |
| 4 | 14 | 75 | 2.9 | 1.0 | 0.6 | 0.2 | <.1 | <.1 | <.1 | <.1 |
| 4 | 15 | 75 | 1.6 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 16 | 75 | 2.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 17 | 75 | 1.6 | 0.8 | 0.5 | 0.2 | <.1 | <.1 | <.1 | <.1 |
| 4 | 18 | 75 | 1.9 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 19 | 75 | 0.5 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 20 | 75 | 2.6 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 21 | 75 | 2.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 22 | 75 | 1.6 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 23 | 75 | 2.4 | 0.5 | 0.4 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 24 | 75 | 2.5 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 25 | 75 | 1.7 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 26 | 75 | 2.2 | 0.5 | 0.3 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 27 | 75 | 1.7 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 28 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 4 | 29 | 75 | 3.1 | 0.4 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 4 | 30 | 75 | 3.0 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 1 | 75 | 2.9 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 2 | 75 | 2.7 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 5 | 3 | 75 | 1.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 4 | 75 | 0.8 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 5 | 75 | 1.9 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 5 | 6 | 75 | 2.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 7 | 75 | 2.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 8 | 75 | 1.8 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 5 | 9 | 75 | 1.7 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 10 | 75 | 1.0 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 11 | 75 | 0.5 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 5 | 12 | 75 | 0.7 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 13 | 75 | 1.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 5 | 16 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 5 | 19 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 5 | 22 | 75 | 0.6 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | ND |
| 5 | 25 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 5 | 28 | 75 | 1.0 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 5 | 31 | 75 | 1.0 | <.1 | <.1 | 0.2 | <.1 | <.1 | <.1 | <.1 |
| 6 | 3 | 75 | 3.5 | 0.1 | <.1 | 0.5 | <.1 | <.1 | <.1 | <.1 |
| 6 | 6 | 75 | 2.1 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 6 | 9 | 75 | 2.9 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 6 | 12 | 75 | 0.6 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 6 | 15 | 75 | 1.2 | 0.1 | <.1 | 0.1 | <.1 | <.1 | <.1 | <.1 |
| 6 | 18 | 75 | 2.9 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 6 | 21 | 75 | 3.0 | 0.3 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 6 | 24 | 75 | 2.5 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 6 | 27 | 75 | 0.1 | <.1 | <.1 | 0.1 | <.1 | 0.1 | <.1 | <.1 |
| 6 | 30 | 75 | 0.6 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 7 | 3 | 75 | 2.4 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 7 | 6 | 75 | 2.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 7 | 9 | 75 | 2.9 | <.1 | <.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 |
| 7 | 12 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 7 | 15 | 75 | 2.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 7 | 16 | 75 | 1.2 | ND | ND | ND | ND | ND | ND | ND |
| 7 | 17 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | ND |
| 7 | 18 | 75 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |

Table B-14. (Continued).

NO3-N (MG/L) FROM EPA LAB

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 19 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 20 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 21 | 75 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 7 | 22 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 23 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 24 | 75 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 7 | 25 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 26 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 27 | 75 | 0.9 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 7 | 28 | 75 | 0.7 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 29 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 7 | 30 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 7 | 31 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 1 | 75 | 0.5 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 2 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 3 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 4 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 5 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 6 | 75 | 1.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 7 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 8 | 75 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 8 | 9 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 10 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 11 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 8 | 12 | 75 | 0.5 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 13 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 8 | 14 | 75 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 17 | 75 | 1.0 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 20 | 75 | 1.3 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 21 | 75 | 1.6 | <.1 | <.1 | <.1 | <.1 | <.1 | 0.1 | <.1 |
| 8 | 26 | 75 | 0.7 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 8 | 29 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 9 | 1 | 75 | 0.5 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 9 | 6 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 9 | 7 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | 0.1 |
| 9 | 10 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | 0.1 |
| 9 | 13 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 9 | 16 | 75 | <.1 | <.1 | <.1 | 0.2 | 1.4 | 0.7 | 0.1 | 0.1 |
| 9 | 19 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 9 | 22 | 75 | <.1 | <.1 | <.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 |
| 9 | 25 | 75 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 9 | 28 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 1 | 75 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 4 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 7 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 10 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 13 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 16 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 20 | 75 | <.1 | ND | ND | ND | ND | ND | ND | 0.1 |
| 10 | 21 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 10 | 22 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 23 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 10 | 24 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 10 | 25 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 26 | 75 | <.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 10 | 27 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 10 | 27 | 75 | 0.4 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 10 | 29 | 75 | 0.4 | ND | ND | ND | ND | ND | ND | <.1 |
| 10 | 30 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 10 | 31 | 75 | 0.3 | 0.1 | 0.1 | <.1 | <.1 | 0.1 | 0.1 | <.1 |
| 11 | 1 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 11 | 2 | 75 | 0.1 | ND | ND | ND | ND | ND | ND | <.1 |
| 11 | 3 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 11 | 4 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | 0.1 |
| 11 | 5 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 11 | 6 | 75 | 0.3 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | ND |
| 11 | 7 | 75 | 0.3 | ND | ND | ND | ND | ND | ND | <.1 |
| 11 | 8 | 75 | 0.2 | ND | ND | ND | ND | ND | ND | <.1 |
| 11 | 9 | 75 | 0.5 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 11 | 10 | 75 | 0.4 |  |  |  |  |  |  | <.1 |
| 11 | 11 | 75 | 0.4 |  |  |  |  |  |  | <.1 |
| 11 | 12 | 75 | 0.5 | 0.1 | <.1 | <.1 | <.1 | 0.1 | <.1 | <.1 |
| 11 | 13 | 75 | 0.6 |  |  |  |  |  |  | <.1 |
| 11 | 14 | 75 | 0.4 |  |  |  |  |  |  | <.1 |
| 11 | 15 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 11 | 16 | 75 | <.1 |  |  |  |  |  |  | <.1 |
| 11 | 17 | 75 | <.1 |  |  |  |  |  |  | <.1 |
| 11 | 18 | 75 | 0.1 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 11 | 19 | 75 | 0.2 |  |  |  |  |  |  | <.1 |
| 11 | 20 | 75 | 0.2 |  |  |  |  |  |  | <.1 |
| 11 | 25 | 75 | 0.1 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 11 | 26 | 75 | 0.2 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 12 | 2 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 12 | 5 | 75 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 12 | 8 | 75 | 0.1 | <.1 | 0.1 | <.1 | 0.1 | <.1 | <.1 | <.1 |
| 12 | 11 | 75 | 0.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 12 | 14 | 75 | 1.0 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 12 | 17 | 75 | 0.3 | <.1 | <.1 | 0.1 | <.1 | <.1 | <.1 | <.1 |
| 12 | 20 | 75 | 0.7 | <.1 | <.1 | 0.1 | <.1 | <.1 | <.1 | <.1 |
| 12 | 23 | 75 | 1.2 | 0.1 | <.1 | 0.1 | <.1 | <.1 | <.1 | <.1 |
| 12 | 31 | 75 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | <.1 | <.1 | <.1 |
| 1 | 3 | 76 | <.1 | 0.1 | 0.1 | 0.1 | 0.1 | <.1 | <.1 | <.1 |
| 1 | 6 | 76 | <.1 | 0.1 | 0.1 | 0.1 | 0.1 | <.1 | <.1 | <.1 |
| 1 | 9 | 76 | <.1 | <.1 | <.1 | 0.1 | 0.1 | <.1 | <.1 | <.1 |
| 1 | 12 | 76 | 0.7 | <.1 | <.1 | 0.1 | 0.1 | <.1 | <.1 | <.1 |
| 1 | 15 | 76 | 1.0 | <.1 | <.1 | <.1 | 0.1 | <.1 | <.1 | <.1 |
| 1 | 18 | 76 | 1.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 1 | 21 | 76 | 0.2 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 1 | 24 | 76 | 0.5 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 1 | 27 | 76 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 | <.1 |
| 1 | 30 | 76 | ND | ND | ND | ND | ND | ND | ND | ND |

Table B-15. Total Kjeldahl Nitrogen (TKN) performance of the Corinne Waste Stabilization Lagoon System.

TKN (MG/L)    FROM EPA LAB

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23 | 75 | 20.9 | 13.5 | 9.7 | 8.2 | NS | ND | 3.2 | 2.0 |
| 1 | 24 | 75 | 22.2 | 13.3 | NS | 7.5 | NS | 4.4 | NS | 2.7 |
| 1 | 25 | 75 | 29.6 | 23.2 | 12.9 | 9.7 | 7.5 | NS | 4.0 | 3.0 |
| 1 | 26 | 75 | 22.3 | 14.1 | 9.0 | 8.3 | 6.1 | 5.0 | 3.6 | 2.6 |
| 1 | 27 | 75 | NS | 18.4 | 11.3 | 8.3 | 5.0 | NS | NS | 2.0 |
| 1 | 28 | 75 | 22.0 | NS | 9.5 | NS | NS | 5.0 | 4.0 | 3.1 |
| 1 | 29 | 75 | NS | 14.7 | 9.7 | 7.1 | NS | 5.2 | NS | 1.0 |
| 1 | 30 | 75 | 24.0 | 15.1 | 7.7 | 7.9 | 6.3 | 5.6 | NS | NS |
| 1 | 31 | 75 | 31.2 | 14.1 | 9.2 | 7.7 | 6.3 | 5.5 | 4.1 | 1.7 |
| 2 | 1 | 75 | NS | 15.7 | 10.0 | 8.2 | 7.5 | 5.0 | 5.0 | 3.6 |
| 2 | 2 | 75 | 25.2 | 17.9 | 11.6 | 10.9 | 8.7 | 5.9 | 4.9 | 2.7 |
| 2 | 3 | 75 | 20.0 | 18.8 | 12.0 | 9.5 | 10.5 | 8.1 | 5.1 | 2.5 |
| 2 | 4 | 75 | 30.8 | 17.9 | 11.7 | 9.5 | 9.4 | 8.4 | 3.5 | 2.9 |
| 2 | 5 | 75 | 24.6 | 16.0 | 12.9 | 10.0 | 9.6 | 7.5 | 4.6 | 2.6 |
| 2 | 6 | 75 | 24.8 | 14.3 | 15.4 | 10.4 | 8.9 | 6.0 | 5.2 | 2.6 |
| 2 | 7 | 75 | 24.0 | 15.0 | 13.3 | 10.0 | 10.4 | 7.0 | 5.5 | 2.6 |
| 2 | 8 | 75 | 22.8 | 17.2 | 12.6 | 10.4 | 8.9 | 8.2 | 5.9 | 3.3 |
| 2 | 9 | 75 | 23.6 | 23.6 | 17.4 | 15.7 | 12.2 | 12.6 | 9.7 | 11.3 |
| 2 | 10 | 75 | 21.3 | 15.2 | 12.3 | 13.0 | 8.4 | 6.6 | 5.4 | 2.9 |
| 2 | 11 | 75 | 10.4 | 15.9 | 9.9 | 10.0 | 8.7 | 6.3 | 4.6 | 2.6 |
| 2 | 12 | 75 | 10.0 | 16.1 | 10.5 | 9.6 | 7.9 | 5.9 | 4.4 | 2.7 |
| 2 | 13 | 75 | 14.2 | 16.0 | 15.0 | 10.4 | 7.9 | 7.0 | 5.1 | 2.5 |
| 2 | 14 | 75 | 10.3 | 12.4 | 10.9 | 9.2 | 8.1 | 7.0 | 4.1 | 2.5 |
| 2 | 15 | 75 | 6.5 | 12.2 | 11.1 | 9.2 | 7.0 | 6.7 | 4.0 | 2.5 |
| 2 | 16 | 75 | 7.2 | 13.7 | 11.0 | 9.9 | 8.4 | 7.2 | 4.3 | 2.1 |
| 2 | 17 | 75 | 8.2 | 10.1 | 11.6 | 10.9 | 8.5 | 5.2 | 4.1 | 1.0 |
| 2 | 18 | 75 | 11.2 | 13.2 | 11.7 | 8.9 | 8.4 | 6.7 | 4.1 | 1.6 |
| 2 | 19 | 75 | 8.7 | 13.3 | 11.4 | 10.2 | 8.3 | 6.3 | 3.1 | 0.0 |
| 2 | 20 | 75 | 13.2 | 12.7 | 12.3 | 10.2 | 8.3 | 6.9 | 2.5 | 4.7 |
| 2 | 21 | 75 | 8.0 | 12.0 | 11.7 | 12.5 | 8.6 | 6.7 | 4.5 | 2.4 |
| 2 | 22 | 75 | 11.9 | 12.9 | 12.2 | 11.5 | ND | 7.2 | 3.9 | 2.4 |
| 2 | 27 | 75 | 14.9 | 12.4 | 12.3 | 11.7 | 9.3 | 7.5 | 6.3 | 4.1 |
| 2 | 28 | 75 | 12.0 | 13.0 | 10.7 | 9.0 | 9.0 | 8.3 | 6.2 | 4.0 |
| 3 | 3 | 75 | 15.6 | 11.7 | 11.0 | 12.1 | 10.6 | 7.5 | 6.4 | 4.0 |
| 3 | 6 | 75 | 16.9 | 15.6 | 12.1 | 12.0 | 10.1 | 1.6 | 5.7 | 5.9 |
| 3 | 9 | 75 | 10.5 | 11.9 | 15.3 | 10.0 | 10.3 | 7.0 | 6.3 | 5.7 |
| 3 | 12 | 75 | 16.1 | 11.6 | 13.0 | 11.6 | 10.0 | 8.3 | 7.3 | 6.6 |
| 3 | 15 | 75 | ND | 17.2 | 15.7 | 11.3 | 13.1 | 12.0 | 8.9 | 6.0 |
| 3 | 18 | 75 | 7.3 | 4.0 | 10.9 | 11.5 | 10.2 | 9.0 | 7.0 | 5.0 |
| 3 | 21 | 75 | 12.0 | 10.0 | 10.6 | 10.5 | 9.7 | 10.1 | 9.0 | 5.9 |
| 3 | 24 | 75 | 15.9 | 13.9 | 10.7 | 11.0 | 11.6 | 10.0 | 10.0 | 6.0 |
| 3 | 28 | 75 | 19.2 | 10.0 | 9.5 | 10.6 | 9.9 | 10.3 | 8.1 | 5.6 |
| 3 | 31 | 75 | 8.9 | 10.0 | 10.1 | 12.3 | 10.7 | 9.6 | 9.9 | 3.9 |
| 4 | 2 | 75 | 7.7 | 9.1 | 10.1 | 10.1 | 10.7 | 10.3 | 10.9 | 8.3 |
| 4 | 5 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 4 | 8 | 75 | 25.6 | 9.6 | 8.5 | 10.0 | 11.1 | 9.6 | 9.6 | 8.6 |
| 4 | 11 | 75 | 17.3 | 10.6 | 8.0 | 10.5 | 12.3 | 10.9 | 9.4 | 8.2 |
| 4 | 14 | 75 | 21.2 | 10.9 | 8.5 | 10.3 | 11.6 | 17.7 | 10.7 | 8.1 |
| 4 | 15 | 75 | 17.4 | 10.3 | 10.3 | 10.4 | 11.4 | 11.0 | 9.7 | 8.4 |
| 4 | 16 | 75 | 11.3 | 8.0 | 5.0 | 6.6 | 9.0 | 9.0 | 8.4 | 7.1 |
| 4 | 17 | 75 | 13.6 | 9.1 | 8.6 | 9.7 | 10.0 | 8.9 | 8.3 | 2.5 |
| 4 | 18 | 75 | 14.6 | 10.3 | 9.6 | 9.2 | 5.2 | 9.6 | 8.4 | 1.9 |
| 4 | 19 | 75 | 7.5 | 8.5 | 8.1 | 9.4 | 9.6 | 10.1 | 7.7 | 6.5 |
| 4 | 20 | 75 | 8.2 | 9.9 | 7.0 | 9.1 | 9.6 | 8.0 | 7.5 | 8.4 |
| 4 | 21 | 75 | 9.7 | 8.4 | 9.0 | 8.4 | 9.4 | 8.1 | 7.3 | 7.1 |
| 4 | 22 | 75 | 9.0 | 8.0 | 8.6 | 8.4 | 7.1 | 7.6 | 8.4 | 6.2 |
| 4 | 23 | 75 | 12.0 | 10.3 | 8.7 | 8.6 | 9.1 | 7.0 | 7.1 | 6.6 |
| 4 | 24 | 75 | 10.0 | 9.0 | 8.6 | 9.2 | 9.6 | 7.1 | 6.5 | 5.0 |
| 4 | 25 | 75 | 11.0 | 9.9 | 8.0 | 8.9 | 10.6 | 8.3 | 5.2 | 6.0 |
| 4 | 26 | 75 | 9.5 | 7.9 | 7.4 | 9.4 | 10.0 | 8.2 | 5.5 | 7.1 |
| 4 | 27 | 75 | 9.6 | 7.8 | 7.5 | 8.0 | 9.1 | 7.4 | 5.6 | 5.2 |
| 4 | 28 | 75 | 20.0 | 9.5 | 8.5 | 9.9 | 11.1 | 6.0 | 6.4 | 5.3 |
| 4 | 29 | 75 | 11.6 | 7.9 | 8.0 | 7.6 | 8.4 | 6.7 | 5.1 | 4.3 |
| 4 | 30 | 75 | 8.3 | 7.0 | 7.8 | 7.6 | 8.3 | 6.2 | 5.1 | 4.7 |
| 5 | 1 | 75 | 9.3 | 7.7 | 8.3 | 6.4 | 7.2 | 6.7 | 5.0 | 6.9 |
| 5 | 2 | 75 | 12.0 | 10.6 | 8.0 | 8.8 | 8.9 | 7.5 | 6.0 | 5.5 |
| 5 | 3 | 75 | 10.5 | 7.7 | 7.4 | 6.9 | 6.7 | 6.3 | 5.3 | 6.2 |
| 5 | 4 | 75 | 10.9 | 7.9 | 6.7 | 5.6 | 7.3 | 6.3 | 4.7 | 3.9 |
| 5 | 5 | 75 | 12.5 | 7.3 | 6.8 | 6.0 | 6.3 | 5.6 | 4.1 | 5.6 |
| 5 | 6 | 75 | 10.1 | 7.3 | 6.2 | 6.0 | 6.6 | 4.9 | 4.6 | 4.2 |
| 5 | 7 | 75 | 6.3 | 7.9 | 6.2 | 5.5 | 5.4 | 4.7 | 4.0 | 3.6 |
| 5 | 8 | 75 | 8.6 | 7.3 | 9.2 | 6.7 | 7.0 | 5.6 | 5.3 | 3.0 |
| 5 | 9 | 75 | 8.1 | 7.9 | 6.2 | 5.3 | 6.0 | 5.5 | 4.4 | 3.7 |
| 5 | 10 | 75 | 12.2 | 8.8 | 7.5 | 5.0 | 7.2 | 6.6 | 5.3 | 4.9 |
| 5 | 11 | 75 | 11.0 | 11.0 | 7.7 | 5.4 | 6.4 | 6.0 | 4.6 | 3.6 |
| 5 | 12 | 75 | 12.2 | 7.1 | 6.0 | 5.0 | 5.9 | 5.7 | 4.6 | 4.1 |
| 5 | 13 | 75 | 12.2 | 5.7 | 5.0 | 4.7 | 5.2 | 4.7 | 4.9 | 4.2 |
| 5 | 16 | 75 | 27.5 | 3.0 | 2.5 | 2.5 | 3.0 | 4.0 | 3.1 | 3.0 |
| 5 | 19 | 75 | 20.6 | 7.9 | 3.5 | 5.0 | 4.3 | 2.9 | 3.7 | 4.3 |
| 5 | 22 | 75 | 19.4 | 7.6 | 4.5 | 3.4 | 3.4 | 2.0 | 2.6 | 3.9 |
| 5 | 25 | 75 | 10.6 | 7.4 | 5.0 | 3.7 | 3.3 | 2.7 | 2.6 | 3.0 |
| 5 | 28 | 75 | 17.3 | 6.3 | 4.9 | 4.1 | 3.7 | 3.1 | 2.5 | 2.7 |
| 5 | 31 | 75 | 8.1 | 4.4 | 3.6 | 4.0 | 3.9 | 3.3 | 2.2 | 2.4 |
| 6 | 3 | 75 | 9.9 | 5.9 | 3.3 | 3.1 | 6.4 | 4.3 | 2.0 | 2.9 |
| 6 | 6 | 75 | 10.5 | 6.5 | 3.4 | 4.7 | 4.9 | 2.3 | 2.7 | 3.2 |
| 6 | 9 | 75 | 15.2 | 6.7 | 4.2 | 6.0 | 6.0 | 5.5 | 1.8 | 3.6 |
| 6 | 12 | 75 | 10.0 | 7.7 | 4.9 | 5.1 | 5.2 | 6.7 | 4.5 | 3.0 |
| 6 | 15 | 75 | 5.2 | 6.4 | 4.1 | 4.0 | 5.3 | 4.0 | 4.2 | 3.2 |
| 6 | 18 | 75 | 9.5 | 9.0 | 7.9 | 5.3 | 5.2 | 5.2 | 3.0 | 3.7 |
| 6 | 21 | 75 | 6.5 | 8.2 | 3.6 | 5.7 | 4.7 | 5.2 | 4.3 | 4.1 |
| 6 | 24 | 75 | 9.2 | 6.4 | 5.4 | 4.4 | 3.6 | 5.0 | 4.5 | 4.1 |
| 6 | 27 | 75 | 16.0 | 7.1 | 5.9 | 4.9 | 4.9 | 4.7 | 4.2 | 4.0 |
| 6 | 30 | 75 | 9.5 | 6.3 | 3.0 | 4.2 | 4.7 | 4.4 | 4.0 | 3.4 |
| 7 | 3 | 75 | 6.5 | 3.5 | 2.9 | 4.5 | 4.6 | 4.1 | 4.2 | 3.2 |
| 7 | 6 | 75 | 1.3 | 3.1 | 2.9 | 5.1 | 4.2 | 4.2 | 3.5 | 3.6 |
| 7 | 9 | 75 | 9.6 | 4.0 | 2.9 | 3.5 | 3.6 | 4.1 | 3.3 | 4.0 |
| 7 | 12 | 75 | 2.8 | 4.4 | 3.0 | 3.3 | 3.0 | 3.9 | 2.7 | 2.7 |
| 7 | 15 | 75 | 5.6 | 5.5 | 4.0 | 3.3 | 2.5 | 2.9 | 2.1 | 2.3 |
| 7 | 16 | 75 | 6.1 | 7.1 | 6.5 | 3.1 | 3.0 | 2.9 | 2.6 | 2.0 |
| 7 | 17 | 75 | 8.5 | 7.9 | 9.0 | 3.3 | 2.0 | 2.0 | 1.9 | 2.4 |
| 7 | 18 | 75 | 8.4 | 7.1 | 5.3 | 3.1 | 2.7 | 2.5 | 1.9 | 1.9 |

Table B-15. (Continued).

TKN (MG/L) FROM EPA LAB

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 19 | 75 | 7.0 | 7.2 | 5.5 | 3.5 | 2.4 | 2.7 | 2.3 | 2.2 |
| 7 | 20 | 75 | 6.7 | 5.9 | 4.6 | 3.5 | 2.5 | 2.6 | 2.1 | 2.1 |
| 7 | 21 | 75 | 5.3 | 6.7 | 4.5 | 3.5 | 2.6 | 2.4 | 2.5 | 2.3 |
| 7 | 22 | 75 | 5.7 | 6.6 | 4.7 | 3.9 | 2.7 | 2.6 | 2.0 | 1.8 |
| 7 | 23 | 75 | 7.0 | 7.0 | 5.0 | 3.8 | 2.3 | 2.4 | 2.1 | 2.0 |
| 7 | 24 | 75 | 8.3 | 6.9 | 5.6 | 4.2 | 2.3 | 2.6 | 1.8 | 1.7 |
| 7 | 25 | 75 | 9.2 | 5.9 | 2.0 | 2.8 | 2.2 | 4.3 | 5.8 | 2.9 |
| 7 | 26 | 75 | 16.3 | 6.9 | 5.4 | 4.6 | 2.9 | 2.2 | 2.2 | 1.9 |
| 7 | 27 | 75 | 7.1 | 6.6 | 5.7 | 4.4 | 2.4 | 2.1 | 2.0 | 2.0 |
| 7 | 28 | 75 | 9.7 | 6.2 | 5.2 | 4.5 | 2.5 | 2.1 | 2.2 | 1.9 |
| 7 | 29 | 75 | 6.0 | 8.1 | 5.9 | 5.0 | 2.4 | 2.5 | 1.9 | 1.8 |
| 7 | 30 | 75 | 7.8 | 10.2 | 8.6 | 5.6 | 2.8 | 2.2 | 1.8 | 1.7 |
| 7 | 31 | 75 | 8.7 | 11.8 | 9.7 | 5.7 | 2.6 | 2.1 | 1.6 | 2.6 |
| 8 | 1 | 75 | 10.3 | 10.8 | 10.3 | 6.7 | 2.7 | 2.1 | 1.9 | 1.5 |
| 8 | 2 | 75 | 7.7 | 10.3 | 8.1 | 5.9 | 2.5 | 2.0 | 2.0 | 2.0 |
| 8 | 3 | 75 | 7.7 | 9.6 | 9.0 | 6.7 | 2.5 | 2.2 | 2.1 | 2.0 |
| 8 | 4 | 75 | 6.6 | 8.1 | 9.1 | 6.0 | 2.8 | 2.2 | 2.0 | 2.0 |
| 8 | 5 | 75 | 8.9 | 7.2 | 9.7 | 6.6 | 2.3 | 1.6 | 2.6 | 1.6 |
| 8 | 6 | 75 | 11.8 | 7.4 | 6.8 | 6.6 | 2.2 | 2.1 | 1.3 | 1.4 |
| 8 | 7 | 75 | 8.6 | 9.0 | 6.4 | 7.0 | 2.7 | 2.3 | 2.0 | 2.0 |
| 8 | 8 | 75 | 20.6 | 10.7 | 6.5 | 6.2 | 2.6 | 3.0 | 1.9 | 1.7 |
| 8 | 9 | 75 | 8.4 | 7.3 | 6.5 | 6.0 | 2.7 | 2.3 | 2.1 | 2.0 |
| 8 | 10 | 75 | 7.0 | 6.4 | 4.9 | 4.8 | 2.1 | 1.6 | 1.6 | 1.5 |
| 8 | 11 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 8 | 12 | 75 | 7.0 | 7.2 | 5.8 | 5.5 | 2.6 | 2.1 | 2.1 | 2.0 |
| 8 | 13 | 75 | 9.0 | 7.1 | 5.2 | 4.5 | 1.8 | 1.6 | 1.4 | 1.4 |
| 8 | 14 | 75 | 16.0 | 12.5 | 8.0 | 5.8 | 2.7 | 2.2 | 2.0 | 2.2 |
| 8 | 17 | 75 | 10.1 | 10.2 | 8.6 | 6.8 | 2.5 | 1.9 | 2.1 | 2.2 |
| 8 | 20 | 75 | 12.9 | 10.3 | 8.9 | 6.2 | 2.5 | 1.8 | 1.7 | 1.8 |
| 8 | 21 | 75 | 8.6 | 9.7 | 9.2 | 5.9 | 1.8 | 0.6 | 1.1 | 1.3 |
| 8 | 24 | 75 | 11.6 | 10.7 | 10.4 | 7.3 | 2.2 | 1.9 | 1.8 | 2.2 |
| 8 | 29 | 75 | 9.5 | 9.8 | 9.5 | 6.3 | 2.1 | 1.6 | 1.7 | 1.8 |
| 9 | 1 | 75 | 11.6 | 9.4 | 9.4 | 6.6 | 0.8 | 1.3 | 1.6 | 1.6 |
| 9 | 6 | 75 | 19.0 | 9.2 | 10.8 | 6.1 | 1.6 | 1.1 | 1.1 | 1.2 |
| 9 | 7 | 75 | 3.6 | 10.4 | 9.9 | 7.8 | 1.7 | 1.6 | 1.7 | 1.8 |
| 9 | 10 | 75 | 19.1 | 9.8 | 8.9 | 8.3 | 3.5 | 1.7 | 1.8 | 1.8 |
| 9 | 13 | 75 | ND | ND | ND | ND | ND | ND | ND | ND |
| 9 | 16 | 75 | 13.9 | 7.6 | 8.5 | 7.9 | 4.3 | 2.0 | 1.8 | 1.7 |
| 9 | 19 | 75 | 16.9 | 8.6 | 8.4 | 7.9 | 4.1 | 1.7 | 1.5 | 1.7 |
| 9 | 22 | 75 | 12.0 | 9.0 | 8.1 | 8.0 | 4.4 | 1.6 | 1.7 | 1.5 |
| 9 | 25 | 75 | 14.3 | 8.8 | 9.1 | 8.2 | 5.1 | 1.8 | 1.4 | 1.3 |
| 9 | 28 | 75 | 9.3 | 7.9 | 8.6 | 7.1 | 4.6 | 1.9 | 1.6 | 1.4 |
| 10 | 1 | 75 | 7.4 | 8.2 | 8.5 | 7.1 | 5.0 | 2.5 | 1.5 | 1.8 |
| 10 | 4 | 75 | 8.4 | 8.1 | 8.8 | 6.9 | 5.0 | 2.0 | 1.5 | 1.4 |
| 10 | 7 | 75 | 7.8 | 8.9 | 8.7 | 6.7 | 4.7 | 1.8 | 1.5 | 1.4 |
| 10 | 10 | 75 | 17.4 | 7.5 | 7.3 | 6.8 | 4.5 | 2.1 | 1.7 | 1.9 |
| 10 | 13 | 75 | 10.5 | 7.7 | 8.9 | 6.9 | 4.6 | 1.6 | 1.4 | 1.3 |
| 10 | 16 | 75 | 36.7 | 7.4 | 7.1 | 6.0 | 4.7 | 2.9 | 1.7 | 1.8 |
| 10 | 20 | 75 | 19.2 | 7.1 | 7.8 | 6.4 | 6.5 | 5.5 | 2.2 | 2.6 |
| 10 | 21 | 75 | 11.0 | 7.8 | 7.3 | 7.0 | 5.1 | 2.6 | 1.8 | 1.8 |
| 10 | 22 | 75 | 10.5 | 7.8 | 7.7 | 7.5 | 5.5 | 2.2 | 1.4 | 1.6 |
| 10 | 23 | 75 | 10.1 | 9.9 | 8.8 | 7.8 | 6.0 | 2.2 | 1.5 | 1.8 |
| 10 | 24 | 75 | 17.0 | 9.3 | 8.7 | 9.8 | 6.6 | 2.5 | 1.9 | 1.5 |
| 10 | 25 | 75 | 17.3 | 9.3 | ND | 8.4 | 6.1 | 1.8 | 1.5 | 1.1 |
| 10 | 26 | 75 | 15.2 | 8.4 | 7.6 | 7.1 | 6.3 | 1.9 | 1.5 | 1.2 |
| 10 | 27 | 75 | 12.0 | 9.1 | 8.6 | 7.3 | 6.5 | 2.5 | 1.5 | 1.4 |
| 10 | 28 | 75 | 9.9 | 8.9 | 8.8 | 7.4 | 5.7 | 2.0 | 1.7 | 1.2 |
| 10 | 29 | 75 | 9.2 | 8.8 | 8.8 | 7.6 | 6.7 | 2.3 | 1.2 | 1.1 |
| 10 | 30 | 75 | 12.5 | 7.7 | 7.4 | 6.9 | 6.2 | 3.0 | 1.4 | 0.5 |
| 10 | 31 | 75 | 13.2 | 9.6 | 9.1 | 8.8 | 5.5 | 3.3 | 1.8 | 1.5 |
| 11 | 1 | 75 | 11.9 | 8.1 | 7.4 | 5.8 | 6.5 | 3.1 | 1.6 | 1.5 |
| 11 | 2 | 75 | 12.6 | 8.1 | 8.9 | 8.5 | 6.0 | 3.6 | 1.8 | 1.5 |
| 11 | 3 | 75 | 14.5 | 8.3 | 8.6 | 8.3 | 9.7 | 3.1 | 1.6 | 1.4 |
| 11 | 4 | 75 | 19.0 | 8.9 | 8.5 | 8.4 | 6.2 | 3.0 | 1.2 | 1.1 |
| 11 | 5 | 75 | 18.2 | 8.5 | 7.8 | 6.2 | 5.5 | 2.9 | 1.9 | 1.6 |
| 11 | 6 | 75 | 12.1 | 8.9 | 8.5 | 6.9 | 6.5 | 4.1 | 1.4 | ND |
| 11 | 7 | 75 | 14.0 | 9.7 | 8.8 | 7.8 | 7.8 | 6.0 | 1.8 | 1.6 |
| 11 | 8 | 75 | 14.7 | 8.9 | 8.5 | 6.2 | 6.2 | 4.0 | 2.0 | 1.4 |
| 11 | 9 | 75 | 16.0 | 9.0 | 7.9 | 8.3 | 5.8 | 3.7 | 1.3 | 1.2 |
| 11 | 10 | 75 | 17.3 | 9.0 | 7.0 | 7.1 | 13.5 | 4.9 | 2.2 | 1.7 |
| 11 | 11 | 75 | 15.6 | 11.6 | 8.6 | 10.2 | 11.0 | 4.3 | 2.1 | 1.6 |
| 11 | 12 | 75 | 15.3 | 7.2 | 8.1 | 10.7 | 6.9 | 4.8 | 2.6 | 1.7 |
| 11 | 13 | 75 | 18.4 | 11.2 | 6.8 | 6.6 | 6.3 | 4.8 | 3.6 | 1.5 |
| 11 | 14 | 75 | 17.4 | 9.1 | 6.8 | 5.8 | 5.7 | 8.1 | 2.9 | 1.4 |
| 11 | 15 | 75 | 16.5 | 7.0 | 6.2 | 5.4 | 5.2 | 2.3 | 1.8 | 1.4 |
| 11 | 16 | 75 | 18.4 | 6.9 | 1.8 | 5.1 | 5.3 | 5.8 | 2.0 | 1.2 |
| 11 | 17 | 75 | 16.2 | 7.3 | 5.3 | ND | 5.4 | ND | 2.0 | 1.2 |
| 11 | 18 | 75 | 22.0 | 10.3 | 7.1 | 7.4 | 5.8 | 5.2 | 2.1 | 1.7 |
| 11 | 19 | 75 | 24.4 | 8.1 | 8.1 | 6.7 | 6.0 | 4.1 | 1.7 | 1.6 |
| 11 | 20 | 75 | 25.2 | 8.1 | 8.1 | 2.9 | 3.4 | 4.3 | 2.1 | 1.4 |
| 11 | 23 | 75 | 20.0 | 5.4 | 9.7 | 5.8 | 5.7 | 2.4 | 2.1 | 1.4 |
| 11 | 26 | 75 | 21.7 | 7.9 | 5.5 | 4.5 | 5.8 | 4.8 | 2.1 | 1.7 |
| 12 | 2 | 75 | 19.1 | 6.8 | 5.0 | 6.7 | 3.8 | 3.6 | 2.6 | 2.0 |
| 12 | 5 | 75 | 20.0 | 5.6 | 6.4 | 2.7 | 6.6 | 5.3 | 2.6 | 1.8 |
| 12 | 8 | 75 | 17.0 | 7.8 | 5.3 | 4.0 | 4.9 | 4.9 | 2.6 | 1.9 |
| 12 | 11 | 75 | 30.4 | 9.1 | 5.9 | 6.7 | 4.4 | 3.0 | 2.8 | 1.8 |
| 12 | 14 | 75 | 20.0 | 7.7 | 3.8 | 3.8 | 2.8 | 2.9 | 2.3 | 1.8 |
| 12 | 17 | 75 | 15.7 | 8.8 | 6.8 | 4.8 | 9.9 | 3.6 | 2.6 | 2.0 |
| 12 | 20 | 75 | 12.7 | 8.2 | 6.8 | 4.3 | 5.1 | 3.1 | 3.2 | 2.3 |
| 12 | 23 | 75 | 21.2 | 8.1 | 8.8 | 9.3 | 4.4 | 3.6 | 2.3 | 2.1 |
| 12 | 31 | 75 | 32.0 | 9.6 | 7.1 | 5.8 | 4.8 | 3.5 | 2.6 | 2.1 |
| 1 | 3 | 76 | 36.4 | 9.0 | 7.9 | 5.7 | 7.1 | 5.4 | 3.3 | 3.0 |
| 1 | 6 | 76 | 16.2 | 23.6 | 8.9 | 7.0 | 5.0 | 4.4 | 4.4 | 2.4 |
| 1 | 9 | 76 | 21.6 | 12.7 | 8.8 | 7.9 | 7.7 | 5.0 | 3.8 | 2.3 |
| 1 | 12 | 76 | 32.0 | 11.5 | 8.1 | 6.9 | 5.5 | 9.0 | 3.8 | 2.3 |
| 1 | 15 | 76 | 23.2 | 10.4 | 8.1 | 6.9 | 5.3 | 8.2 | 3.8 | 4.8 |
| 1 | 18 | 76 | 13.9 | 10.5 | 8.5 | 7.0 | 5.8 | 5.8 | 3.6 | 2.3 |
| 1 | 21 | 76 | 20.8 | 11.7 | 8.3 | 7.9 | 6.1 | 7.6 | 4.3 | 2.5 |
| 1 | 24 | 76 | 34.8 | 12.0 | 9.1 | 9.7 | 9.0 | 7.3 | 4.5 | 6.9 |
| 1 | 27 | 76 | 32.8 | 14.1 | 10.3 | 11.3 | 10.6 | 7.2 | 7.6 | 11.2 |
| 1 | 30 | 76 | ND | ND | ND | ND | ND | ND | ND | ND |

# APPENDIX C

# ALGAL GENERA IDENTIFIED IN THE CORINNE WASTE STABILIZATION LAGOON SYSTEM

Table C-1. Algal count by genera identified in the Corinne Waste Stabilization Lagoon System.

ALGAL COUNTS PER ML. -- CORINNE, UTAH NG-156

NS = NO SAMPLE    ND = NO DATA

DATE 1/23/75    RUN 1

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 4572 | 4128 | 9335 | 5398 | 3556 | 2146 | 1524 | 1308 |
| GLOEOCAPSA | 0 | 0 | 0 | 0 | 445 | 432 | 0 | 0 |
| MICROCYSTIS | 2223 | 3620 | 6541 | 3429 | 2350 | 610 | 381 | 533 |
| SCENEDESMUS I | 1461 | 10097 | 16256 | 11113 | 4128 | 1207 | 165 | 0 |
| ANKISTRODESMUS,F | 1080 | 0 | 0 | 64 | 64 | 89 | 0 | 0 |
| PHACOTUS | 0 | 42926 | 9906 | 22098 | 11621 | 749 | 762 | 305 |
| PLANKTOSPHAERIA | 0 | 0 | 0 | 5336 | 0 | 0 | 0 | 0 |
| CHLAMYDOMONAS | 0 | 953 | 6223 | 1778 | 127 | 38 | 140 | 102 |
| TRACHELOMONAS | 0 | 9636 | 2985 | 0 | 0 | 0 | 0 | 0 |
| CHLORELLA | 0 | 953 | 699 | 953 | 127 | 0 | 305 | 229 |
| NAVICULA | 0 | 0 | 0 | 191 | 0 | 0 | 25 | 0 |
| EUGLENOIDS | 0 | 2905 | 4763 | 9716 | 5525 | 419 | 673 | 546 |
| TOTAL COUNT, ALL GENERA | 9336 | 74295 | 56706 | 60071 | 27940 | 5690 | 3975 | 3023 |

DATE 1/29/75    RUN 7

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 990 | 889 | 381 | 2032 | 1334 | 663 | 483 | 1232 |
| GLOEOCAPSA | 0 | 254 | 0 | 0 | 191 | 0 | 51 | 0 |
| MICROCYSTIS | 1638 | 3937 | 889 | 1016 | 1080 | 673 | 3010 | 473 |
| SCENEDESMUS I | 0 | 22733 | 12954 | 4445 | 445 | 546 | 267 | 0 |
| PHACOTUS | 0 | 60960 | 13081 | 17653 | 6668 | 3406 | 1511 | 254 |
| PLANKTOSPHAERIA | 0 | 0 | 0 | 0 | 1143 | 0 | 0 | 0 |
| CHLAMYDOMONAS | 0 | 1905 | 0 | 3048 | 762 | 394 | 165 | 191 |
| CHLORELLA | 0 | 0 | 0 | 0 | 0 | 64 | 51 | 229 |
| EUGLENOIDS | 0 | 3937 | 2413 | 381 | 1080 | 1168 | 1562 | 1105 |
| TOTAL COUNT, ALL GENERA | 2628 | 94615 | 29718 | 28575 | 12700 | 6909 | 7160 | 3480 |

DATE 2/ 5/75    RUN 14

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 699 | 3175 | 4191 | 381 | 3556 | 1003 | 508 | 191 |
| MICROCYSTIS | 3264 | 3429 | 6096 | 1905 | 1461 | 521 | 1435 | 368 |
| SCENEDESMUS I | 76 | 10287 | 27432 | 3175 | 4509 | 2146 | 64 | 0 |
| PHACOTUS | 0 | 52324 | 65024 | 62992 | 37592 | 15138 | 11481 | 1105 |
| PLANKTOSPHAERIA | 0 | 0 | 0 | 0 | 0 | 2121 | 860 | 1410 |
| CHLAMYDOMONAS | 0 | 1524 | 1143 | 1778 | 699 | 724 | 521 | 470 |
| CHLORELLA | 0 | 0 | 0 | 0 | 0 | 64 | 0 | 0 |
| NAVICULA | 0 | 0 | 0 | 0 | 0 | 0 | 76 | 38 |
| EUGLENOIDS | 0 | 762 | 889 | 1905 | 1397 | 914 | 1715 | 76 |
| TOTAL COUNT, ALL GENERA | 4039 | 71501 | 104775 | 72136 | 49213 | 22631 | 16599 | 3657 |

DATE 2/13/75    RUN 22

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 405 | 5588 | 3302 | 254 | 3429 | 4826 | 1778 | 559 |
| MICROCYSTIS | 1143 | 5842 | 3556 | 1778 | 2540 | 2159 | 1143 | 152 |
| SCENEDESMUS I | 432 | 4572 | 5842 | 3302 | 4953 | 1143 | 254 | 0 |
| PHACOTUS | 0 | 12446 | 35052 | 2794 | 6985 | 4699 | 1397 | 1232 |
| PLANKTOSPHAERIA | 0 | 0 | 0 | 0 | 0 | 1965 | 889 | 1295 |
| CHLAMYDOMONAS | 483 | 2336 | 1778 | 5080 | 1397 | 1524 | 1270 | 2451 |
| EUGLENOIDS | 0 | 1270 | 1778 | 254 | 381 | 2032 | 254 | 330 |
| TOTAL COUNT, ALL GENERA | 2464 | 31750 | 51308 | 13462 | 19685 | 18288 | 6985 | 6020 |

DATE 2/19/75    RUN 28

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 597 | 445 | 1016 | 1524 | 445 | 2731 | 1613 | 800 |
| MICROCYSTIS | 1372 | 4953 | 635 | 1143 | 381 | 254 | 330 | 787 |

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Table C-1. Continued.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| SCENEDESMUS I | 102 | 8065 | 889 | 1016 | 318 | 0 | 0 | 0 |
| PHACOTUS | 0 | 35497 | 2921 | 21209 | 9144 | 8065 | 15037 | 9763 |
| PLANKTOSPHAERIA | 0 | 0 | 0 | 0 | 1969 | 1588 | 0 | 0 |
| CHLAMYDOMONAS | 64 | 4096 | 635 | 381 | 1588 | 1334 | 4001 | 2460 |
| CHLORELLA | 0 | 0 | 0 | 0 | 0 | 128 | 1588 | 64 |
| NAVICULA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 114 |
| EUGLENOIDS | 0 | 5525 | 254 | 635 | 191 | 64 | 0 | 0 |
| TOTAL COUNT, ALL GENERA | 2134 | 63579 | 6350 | 25908 | 10478 | 14161 | 22569 | 13868 |

DATE 2/26/75 RUN 33

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 1753 | 3327 | 3251 | 483 | 2819 | 6223 | 7811 | 8534 |
| MICROCYSTIS | 1105 | 4724 | 4140 | 1651 | 2368 | 1956 | 860 | 775 |
| SCENEDESMUS I | 165 | 3226 | 2413 | 813 | [illegible] | 2769 | 1588 | 830 |
| PLANKTOSPHAERIA | 0 | 0 | 813 | 0 | 0 | 4724 | 2600 | 6845 |
| PHACOTUS | 0 | 95910 | 18085 | 50394 | 35585 | 26314 | 21514 | 11341 |
| CHLAMYDOMONAS | 76 | 2466 | 0 | 0 | 1575 | 4013 | 2743 | 1994 |
| NAVICULA | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EUGLENOIDS | 0 | 762 | 0 | 787 | 2210 | 2007 | 5118 | 5369 |
| TOTAL COUNT, ALL GENERA | 3137 | 110414 | 28702 | 54127 | 48616 | 48066 | 41974 | 35636 |

DATE 3/ 5/75 RUN 35

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 914 | 2591 | 2870 | 4521 | 1905 | 1194 | 10135 | 7493 |
| MICROCYSTIS | 1054 | 914 | 889 | 4902 | 432 | 1930 | 2464 | 1600 |
| SCENEDESMUS I | 114 | 5004 | 15316 | 6706 | 4902 | 1651 | 2057 | 3023 |
| PLANKTOSPHAERIA | 0 | 3023 | 1702 | 9754 | 6071 | 737 | 11582 | 9550 |
| PHACOTUS | 127 | 117856 | 73965 | 16053 | 35738 | 14605 | 7518 | 5664 |
| CHLAMYDOMONAS | 89 | 2261 | 1753 | 508 | 1778 | 330 | 381 | 635 |
| DIATOM | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 |
| NAVICULA | 13 | 0 | 0 | 330 | 0 | 76 | 0 | 51 |
| MERISMOPEDIA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 102 |
| SCENEDESMUS II | 0 | 0 | 0 | 0 | 51 | 102 | 0 | 0 |
| EUGLENOIDS | 0 | 1626 | 6248 | 1473 | 660 | 940 | 635 | 1092 |
| TOTAL COUNT, ALL GENERA | 2311 | 133274 | 132743 | 44247 | 51537 | 21565 | 34798 | 29210 |

DATE 3/12/75 RUN 37

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 1245 | 4001 | 3332 | 3493 | 1270 | 3866 | 5017 | 6121 |
| MICROCYSTIS | 826 | 1118 | 12256 | 6033 | 10185 | 5406 | 3429 | 2451 |
| SCENEDESMUS I | 25 | 1588 | 5164 | 15748 | 13411 | 6096 | 6147 | 3429 |
| PLANKTOSPHAERIA | 473 | 3937 | 5017 | 3874 | 13818 | 7722 | 3023 | 3861 |
| PHACOTUS | 38 | 45530 | 47371 | 69596 | 85750 | 56083 | 39827 | 2629 |
| CHLAMYDOMONAS | 139 | 2540 | 889 | 1905 | 1930 | 1194 | 2845 | 597 |
| NAVICULA | 38 | 0 | 0 | 445 | 76 | 178 | 64 | 51 |
| STEPHANODISCUS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5041 |
| EUGLENOIDS | 0 | 1969 | 1461 | 1969 | 2007 | 2235 | 4674 | 1638 |
| TOTAL COUNT, ALL GENERA | 2781 | 73739 | 75438 | 103061 | 128448 | 82860 | 65024 | 25819 |

DATE 3/19/75 RUN 39

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 940 | 3112 | 5906 | 4953 | 4318 | 3429 | 4029 | 2768 |
| MICROCYSTIS | 976 | 10398 | 12827 | 10541 | 10986 | 12129 | 6248 | 1994 |
| SCENEDESMUS I | 0 | 8255 | 16955 | 29020 | 15304 | 16701 | 16942 | 11265 |
| PLANKTOSPHAERIA | 521 | 11075 | 8319 | 10922 | 6096 | 2667 | 13589 | 1791 |
| PHACOTUS | 0 | 2096 | 3429 | 4001 | 5779 | 34564 | 39995 | 7226 |
| CHLAMYDOMONAS | 38 | 3048 | 381 | 699 | 2096 | 1905 | 1905 | 860 |
| NAVICULA | 0 | 445 | 0 | 191 | 64 | 254 | 152 | 953 |
| STEPHANODISCUS | 0 | 0 | 0 | 0 | 0 | 0 | 463 | 37592 |
| EUGLENOIDS | 0 | 889 | 191 | 254 | 1397 | 3620 | 5004 | 1588 |
| TOTAL COUNT, ALL GENERA | 2375 | 47516 | 48006 | 60579 | 46036 | 75248 | 81467 | 65976 |

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Table C-1. Continued.

DATE 3/24/75 RUN 41

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 1267 | 3747 | 12573 | 7176 | 4509 | 8001 | 4699 | 3797 |
| MICROCYSTIS | 1295 | 10033 | 31052 | 18415 | 16955 | 13843 | 2413 | 1067 |
| SCENEDESMUS I | 0 | 5461 | 42736 | 103632 | 82677 | 50356 | 18542 | 4680 |
| ANKISTRODESMUS.F | 0 | 0 | 1397 | 2731 | 2223 | 699 | 203 | 0 |
| PLANKTOSPHAERIA | 510 | 5842 | 21654 | 12129 | 14669 | 2858 | 12344 | 2197 |
| PHACOTUS | 0 | 1080 | 3112 | 4826 | 1778 | 79756 | 12522 | 5791 |
| CHLAMYDOMONAS | 0 | 1397 | 2350 | 1969 | 3366 | 4001 | 2337 | 724 |
| MERISMOPEDIA | 0 | 0 | 1016 | 8128 | 1016 | 2032 | 0 | 0 |
| SCENEDESMUS II | 0 | 0 | 2159 | 6096 | 508 | 254 | 0 | 0 |
| NAVICULA | 0 | 0 | 318 | 445 | 191 | 127 | 76 | 0 |
| STEPHANODISCUS | 0 | 0 | 0 | 0 | 0 | 0 | 1600 | 112141 |
| EUGLENOIDS | 0 | 318 | 0 | 0 | 0 | 2159 | 1295 | 2350 |
| TOTAL COUNT, ALL GENERA | 3112 | 27977 | 118364 | 165545 | 127889 | 164084 | 56032 | 132747 |

DATE 4/ 7/75 RUN 44

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 2319 | 2646 | 4998 | 3724 | 3234 | 4802 | 6664 | 9212 |
| MICROCYSTIS | 2961 | 17052 | 19994 | 13818 | 11074 | 23716 | 9114 | 11956 |
| SCENEDESMUS I | 0 | 21854 | 39788 | 85456 | 145824 | 134848 | 92512 | 40768 |
| ANKISTRODESMUS.F | 0 | 0 | 98 | 1666 | 686 | 1470 | 1176 | 0 |
| PLANKTOSPHAERIA | 499 | 16376 | 8036 | 9408 | 12446 | 6566 | 4606 | 5096 |
| PHACOTUS | 0 | 3234 | 1470 | 1960 | 3234 | 39298 | 40670 | 12939 |
| CHLAMYDOMONAS | 0 | 0 | 892 | 980 | 490 | 1078 | 3430 | 882 |
| SCENEDESMUS I | 0 | 0 | 1764 | 3136 | 10976 | 6272 | 0 | 0 |
| NAVICULA | 0 | 2842 | 2254 | 1862 | 2450 | 1274 | 2450 | 0 |
| STEPHANODISCUS | 0 | 35554 | 35868 | 47236 | 59192 | 83986 | 81536 | 208740 |
| PEDIASTRUM | 0 | 0 | 0 | 0 | 0 | 0 | 3136 | 1568 |
| EUGLENOIDS | 0 | 98 | 0 | 196 | 882 | 1960 | 4214 | 6566 |
| TOTAL COUNT, ALL GENERA | 5697 | 93356 | 116332 | 169442 | 250488 | 335270 | 249568 | 297626 |

DATE 4/ 9/75 RUN 46

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 1963 | 5376 | 1372 | 15680 | 12740 | 6468 | 4900 | 3335 |
| MICROCYSTIS | 2650 | 3880 | 11956 | 38220 | 20188 | 17052 | 14896 | 15366 |
| SCENEDESMUS I | 6 | 45472 | 95649 | 214816 | 244608 | 341824 | 253624 | 102312 |
| ANKISTRODESMUS.F | 4 | 2940 | 392 | 980 | 784 | 196 | 196 | 0 |
| PLANKTOSPHAERIA | 274 | 7448 | 6272 | 3528 | 17444 | 2156 | 4508 | 4862 |
| PHACOTUS | 0 | 3724 | 2156 | 7056 | 21168 | 14308 | 5292 | 4018 |
| CHLAMYDOMONAS | 0 | 3684 | 1568 | 1372 | 1960 | 980 | 3332 | 294 |
| SCENEDESMUS II | 0 | 0 | 784 | 1568 | 5488 | 1568 | 1176 | 0 |
| NAVICULA | 0 | 23140 | 6420 | 10780 | 3332 | 1960 | 2156 | 98 |
| STEPHANODISCUS | 0 | 234906 | 171304 | 190708 | 84672 | 144256 | 106624 | 210112 |
| PEDIASTRUM | 0 | 0 | 0 | 0 | 0 | 0 | 3136 | 1568 |
| EUGLENOIDS | 0 | 0 | 0 | 0 | 1372 | 784 | 6960 | 2646 |
| TOTAL COUNT, ALL GENERA | 6528 | 337316 | 239980 | 484708 | 413756 | 531552 | 406760 | 732550 |

DATE 4/18/75 RUN 47

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 3724 | 0 | 6272 | 0 | 0 | 0 | 0 | 0 |
| MICROCYSTIS | 1607 | 0 | 6272 | 18816 | 31360 | 65856 | 6272 | 43904 |
| SCENEDESMUS I | 0 | 175616 | 370048 | 301056 | 420224 | 297920 | 338688 | 128576 |
| ANKISTRODESMUS.F | 0 | 0 | 0 | 6272 | 0 | 0 | 0 | 0 |
| PLANKTOSPHAERIA | 392 | 232064 | 432768 | 0 | 0 | 75264 | 6272 | 15680 |
| PHACOTUS | 0 | 18816 | 25088 | 15680 | 6272 | 59584 | 37632 | 6272 |
| CHLAMYDOMONAS | 0 | 6272 | 12544 | 18816 | 0 | 40768 | 0 | 3136 |
| NAVICULA | 0 | 12544 | 31360 | 15680 | 18816 | 3136 | 3136 | 0 |
| STEPHANODISCUS | 157 | 213248 | 451584 | 145040 | 163072 | 31360 | 131712 | 134848 |
| EUGLENOIDS | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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Table C-1. Continued.

```
  TOTAL COUNT, ALL GENERA        5963     658560    1335936     521360     639744     523908     523712     332462
          DATE    4/24/75     RUN  58

             GENERA          INFLUENT      POND1      POND2      POND3      POND4      POND5      POND6   EFFLUENT
     OSCILLATORIA                1360       2940       2548       4900       7056       6076       6272      14896
     MICROCYSTIS                 2003       5488       8820      19992       3920       1764      25088      17052
     SCENEDESMUS I                  0     176400     360640     509600     627200     608384     326144     539392
     ANKISTRODESMUS.F               0       1372        588       1960       2352       6468       1764          0
     PLANKTOSPHAERIA              176       9604       3136       6468       3332       4900       5488       9212
     KIRCHNERIELLA                  0          0       2940       5488          0          0          0        784
     PHACOTUS                       0       9996       6076      15680      12544      18620       6076       4900
     CHLAMYDOMONAS                  0       7448       3332       1568          0       5292       5684       2156
     SCENEDESMUS II                 0          0          0       7056       1568       3136          0          0
     NAVICULA                       0       2548        980       3332       9408       6272       8036       4116
     STEPHANODISCUS                 0     239512     313600     301056     147392     232064     108192     451584
     EUGLENOIDS                     0       2352        588       4704       2744        980        392       5292
  TOTAL COUNT, ALL GENERA        3175     457660     703248     881804     817516     893956     493136    1049384
          DATE    5/ 1/75     RUN  65

             GENERA          INFLUENT      POND1      POND2      POND3      POND4      POND5      POND6   EFFLUENT
     OSCILLATORIA                2117       6272          0          0       6272          0       6272       3136
     MICROCYSTIS                 1446          0       2352       4704      31360      21952      25088      53312
     ANKISTRODESMUS.F               0          0          0       2352       6272          0          0          0
     SCENEDESMUS I                  0     410816     818496    1430016    1292032    3612672    1304576     382592
     PLANKTOSPHAERIA                0     137984     171696     176400     116032       9408          0      34496
     KIRCHNERIELLA                  0          0          0          0          0          0       3136          0
     PHACOTUS                       0      31360      21168      14112       9408       6272          0          0
     CHLAMYDOMONAS                914       6272       2352       2352       6272          0       3136       9408
     SCENEDESMUS II                 0          0          0       2352          0          0          0          0
     NAVICULA                       0      12544       4704       4704      18816       9408      15680       3136
     STEPHANODISCUS              1176      62720      82320     115248     153664      34496      12544      21952
     EUGLENOIDS                     0       6272       9408       2352          0       1568          0       3136
  TOTAL COUNT, ALL GENERA       13132     674240    1112496    1754592    1640128    3695776    1370432     511168
          DATE    5/ 8/75     RUN  72

             GENERA          INFLUENT      POND1      POND2      POND3      POND4      POND5      POND6   EFFLUENT
     OSCILLATORIA                2901          0       4704       3136       3136       6272      12544       2352
     VOLVOX                         0          0          0       3136       3136          0          0        784
     CHLOROBOTRYS                   0          0          0          0          0          0          0       1568
     MICROCYSTIS                 3254          0       9408       6272      43904      12544      31360      29400
     ACTINASTRUM                    0          0          0          0          0          0          0        784
     ANKISTRODESMUS.F               0       9408       9408          0       3136       3136          0          0
     SCENEDESMUS I                 78    1354160          0     401408    3010560     928256     241472     122304
     PLANKTOSPHAERIA                0     392432     103488     166208     141120      12544       4704          0
     KIRCHNERIELLA                  0       9408       4704       3136       3136       3136        784          0
     PHACOTUS                       0      18816       9408       9408       9408       3136        784       3920
     CHLAMYDOMONAS                274      23520      32928          0       6272       9408       7840       3136
     SCENEDESMUS II                 0          0          0          0       6272       9408          0       2352
     NAVICULA                       0      14112          0          0      12544      12544      16464       3136
     STEPHANODISCUS               353     263424     103488      68992      50176      15680       3920       1568
     OOCYSTIS                       0          0          0          0          0          0          0      16464
     EUGLENOIDS                     0      23520      14112       6272      12544       6272        784          0
  TOTAL COUNT, ALL GENERA        6863    2116800     291648     667968    3305344    1022336     320656     187768
          DATE    5/15/75     RUN  79

             GENERA          INFLUENT      POND1      POND2      POND3      POND4      POND5      POND6   EFFLUENT
     OSCILLATORIA                3136       7840       6664      14112      15680      32144      52528       8232
     VOLVOX                         0          0          0          0          0          0          0       1176
     CHLOROBOTRYS                 462       3408       5096       1176       2352          0       3136       2352
     MICROCYSTIS                 2352       9408      12544       2744      13976       7056      13328       7056
     ACTINASTRUM                    0          0          0       1568          0          0       1568        392
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Table C-1. Continued.

```
      ANKISTRODESMUS,F             78          0          0       1176       1568       4704        784          0
      SCENEDESMUS I                 0      61152      23128     275968     200704     106624     220928     139552
      CYCLOTELLA                   78          0        392          0          0          0          0          0
      PLANKTOSPHAERIA               0      70560      10976      10424      13328          0          0          0
      KIRCHNERIELLA                 0       1568          0        392          0          0          0          0
      PHACOTUS                      0          0          0        392        784          0       4704       1960
      CHLAMYDAMONAS                78          0        784        392        784        392       2352       2352
      SCENEDESMUS II                0       6272          0        784          0          0          0          0
      NAVICULA                      0       3136       2744       8624      10016      10032      14112       7056
      STEPHANODISCUS                0       3136       4704       5096          0       6272      10192       5880
      OOCYSTIS                      0          0       3136          0      21952       1568          0          0
      EUGLENOIDS                    0       1568        784       3136       5488          0       3136        392
TOTAL COUNT, ALL GENERA          6584     174048      70952     333984     264992     176792     334768     176403
         DATE    5/27/75      RUN  80

           GENERA            INFLUENT      POND1      POND2      POND3      POND4      POND5      POND6   EFFLUENT
      OSCILLATORIA               5410       5488       1586        961        470        549      67624      37632
      CHLOROBOTRYS                784       9408       9408        862          0        470       6272       7840
      MICROCYSTIS                4155       2352       6272       3528          0       4155      25088      32928
      ACTINAINASTRUM                0          0        784          0          0          0          0       1568
      ANKISTRODESMUS,F              0          0          0       1098       3136       1332       3136       7840
      SCENEDESMUS I                 0     203840     135632       5645       8153       1254      40768     277536
      CYCLOTELLA                    0          0          0          0        470         78          0          0
      PLANKTOSPHAERIA               0      95648       8624        235        627          0          0          0
      RHODOMONAS                    0        784       1568        157          0          0          0       1568
      PHACOTUS                      0        784        784          0          0          0          0          0
      CHLORELLA                     0       1568          0        314       1882         78       4704       6272
      CHLAMYDAMONAS                 0        784          0        392          0          0          0       3136
      FRANCEIA                      0          0        784          0          0          0          0          0
      SCENEDESMUS II                0       1568       1568        470        157          0          0       3136
      NAVICULA                      0       2352       3920        235        314        156       6272       3136
      STEPHANODISCUS                0       3920       3920          0          0          0      12544      17248
      OOCYSTIS                      0      23304          0          0          0          0          0          0
      EUGLENOIDS                    0       5488        784         78          0          0       4704       1568
TOTAL COUNT, ALL GENERA         10349     354368     175652      13955      15208       8072     170912     401468
         DATE    5/29/75      RUN  82

           GENERA            INFLUENT      POND1      POND2      POND3      POND4      POND5      POND6   EFFLUENT
      OSCILLATORIA               1646       3136       6272        549         98          0      83320     159936
      CHLOROBOTRYS                157          0       4704          0          0          0          0          0
      MICROCYSTIS                1803       4704      35280       3016       1137        745      14896      13328
      ACTINAINASTRUM                0       1568        784          0          0          0          0        784
      ANKISTRODESMUS,F              0        784       3920        118        176         78        784       2352
      SCENEDESMUS I                 0     395136     112896        118        941        255        784      30576
      RHODOMONAS                    0          0          0          0        118         98          0          0
      KIRCHNERIELLA                 0          0          0          0         20          0          0          0
      PHACOTUS                      0       1568       1568         39          0          0       1568       1568
      CHLORELLA                     0        784          0          0          0          0       7840       5488
      CHLAMYDAMONAS                78      13976       5488         39          0          0      14112       3920
      SCENEDESMUS II                0          0          0          0         20          0          0          0
      NAVICULA                      0       1568       7056          0         20         59          0        784
      STEPHANODISCUS                0        784       4704          0          0         39          0        784
      PEDIASTRUM                    0          0          0        549          0          0          0          0
      OOCYSTIS                      0      64288      39200          0          0          0          0          0
      EUGLENOIDS                    0       2352       3136          0          0          0          0          0
      SCHROEDERIA                   0          0          0        784          0          0          0          0
      CHARACIUM                     0          0          0          0          0          0          0       1568
TOTAL COUNT, ALL GENERA          3684     487566     225008       4428       2530       1274     123364     221872
         DATE    6/ 1/75      RUN  84

           GENERA            INFLUENT      POND1      POND2      POND3      POND4      POND5      POND6   EFFLUENT
```

Table C-1. Continued.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 2453 | 784 | 7840 | 20 | 0 | 39 | 274 | 39 |
| CHLOROBOTRYS | 39 | 9408 | 0 | 39 | 0 | 0 | 39 | 0 |
| MICROCYSTIS | 2338 | 6272 | 4704 | 549 | 647 | 2979 | 2156 | 608 |
| ACTINAINASTRUM | 0 | 784 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANKISTRODESMUS,F | 157 | 4704 | 3136 | 255 | 20 | 78 | 78 | 78 |
| SCENEDESMUS I | 78 | 285376 | 122304 | 549 | 0 | 1215 | 823 | 470 |
| CYCLOTELLA | 0 | 0 | 0 | 137 | 59 | 0 | 78 | 20 |
| RHODOMONAS | 0 | 0 | 0 | 0 | 0 | 0 | 392 | 39 |
| SELENASTRUM | 39 | 784 | 784 | 0 | 0 | 0 | 0 | 0 |
| PHACOTUS | 0 | 0 | 784 | 20 | 20 | 78 | 78 | 20 |
| CHLORELLA | 745 | 12544 | 4704 | 59 | 39 | 0 | 274 | 20 |
| CHLAMYDOMONAS | 0 | 12544 | 3136 | 0 | 0 | 0 | 0 | 59 |
| SCENEDESMUS II | 0 | 0 | 3136 | 0 | 118 | 78 | 0 | 0 |
| NAVICULA | 0 | 1568 | 1568 | 20 | 0 | 941 | 470 | 20 |
| STEPHANODISCUS | 118 | 1568 | 784 | 20 | 0 | 0 | 0 | 0 |
| PEDIASTRUM | 0 | 0 | 0 | 196 | 157 | 0 | 0 | 0 |
| EUGLENOIDS | 0 | 784 | 784 | 0 | 0 | 0 | 0 | 0 |
| TOTAL COUNT, ALL GENERA | 5664 | 337120 | 153664 | 1864 | 1060 | 5408 | 4662 | 1373 |
| DATE 6/13/75 | RUN 86 | | | | | | | |
| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
| OSCILLATORIA | 804 | 0 | 0 | 0 | 20 | 314 | 0 | 39 |
| CHLOROBOTRYS | 333 | 1568 | 784 | 0 | 0 | 0 | 0 | 0 |
| MICROCYSTIS | 647 | 13976 | 4704 | 627 | 608 | 8938 | 588 | 196 |
| ACTINAINASTRUM | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 |
| ANKISTRODESMUS,F | 33 | 7056 | 3136 | 1098 | 98 | 0 | 0 | 0 |
| SCENEDESMUS I | 216 | 353640 | 202272 | 157 | 78 | 1568 | 235 | 510 |
| CYCLOTELLA | 0 | 0 | 0 | 118 | 137 | 0 | 0 | 0 |
| RHODOMONAS | 0 | 0 | 0 | 118 | 20 | 0 | 0 | 0 |
| PHACOTUS | 0 | 784 | 0 | 0 | 0 | 0 | 0 | 0 |
| CHLORELLA | 255 | 3136 | 3136 | 118 | 39 | 0 | 0 | 0 |
| CHLAMYDOMONAS | 20 | 1568 | 1568 | 196 | 0 | 0 | 0 | 0 |
| SCENEDESMUS II | 0 | 3136 | 1568 | 0 | 0 | 941 | 0 | 0 |
| NAVICULA | 39 | 3136 | 0 | 0 | 98 | 1411 | 157 | 3077 |
| OOCYSTIS | 0 | 3920 | 0 | 0 | 0 | 0 | 0 | 0 |
| SCHROEDERIA | 0 | 0 | 0 | 0 | 0 | 0 | 314 | 745 |
| GEMINELLA | 196 | 0 | 0 | 0 | 20 | 79 | 0 | 0 |
| CRYPTOMONAS | 0 | 0 | 39 | 0 | 137 | 0 | 1137 | 1098 |
| TRACHELOMONAS | 0 | 0 | 0 | 0 | 59 | 0 | 0 | 0 |
| GOMPHONEMA | 0 | 0 | 0 | 0 | 0 | 1568 | 314 | 39 |
| TOTAL COUNT, ALL GENERA | 2543 | 395920 | 217207 | 2432 | 1334 | 14819 | 2745 | 5704 |
| DATE 6/19/75 | RUN 89 | | | | | | | |
| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
| OSCILLATORIA | 1176 | 784 | 0 | 0 | 39 | 78 | 0 | 20 |
| CHLOROBOTRYS | 78 | 0 | 0 | 0 | 39 | 78 | 0 | 0 |
| MICROCYSTIS | 902 | 3136 | 1568 | 902 | 1098 | 2901 | 353 | 766 |
| ACTINAINASTRUM | 0 | 0 | 784 | 0 | 0 | 0 | 0 | 0 |
| ANKISTRODESMUS,F | 0 | 0 | 1568 | 157 | 118 | 0 | 78 | 78 |
| SCENEDESMUS I | 274 | 871808 | 1093520 | 126224 | 157 | 392 | 1529 | 0 |
| CYCLOTELLA | 0 | 0 | 784 | 235 | 118 | 118 | 196 | 0 |
| RHODOMONAS | 0 | 0 | 0 | 0 | 529 | 353 | 1098 | 1960 |
| PHACOTUS | 0 | 0 | 0 | 39 | 0 | 0 | 0 | 0 |
| CHLORELLA | 314 | 784 | 1568 | 0 | 78 | 0 | 392 | 235 |
| CHLAMYDOMONAS | 20 | 784 | 3136 | 0 | 0 | 0 | 0 | 0 |
| SCENEDESMUS II | 0 | 0 | 0 | 0 | 0 | 0 | 78 | 0 |
| NAVICULA | 39 | 784 | 1568 | 118 | 118 | 470 | 78 | 39 |
| STEPHANODISCUS | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PEDIASTRUM | 0 | 0 | 0 | 549 | 0 | 0 | 0 | 392 |
| SCHROEDERIA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 157 |
| TOTAL COUNT, ALL GENERA | 2842 | 880432 | 1104496 | 128224 | 2294 | 4390 | 3802 | 3764 |

Table C-1. Continued.

DATE 6/24/75 RUN 91

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 0 | 0 | 0 | 98 | 137 | 0 | 0 | 0 |
| CHLOROBOTRYS | 0 | 3136 | 0 | 0 | 0 | 0 | 0 | 0 |
| MICROCYSTIS | 11760 | 3136 | 1568 | 98 | 353 | 176 | 235 | 431 |
| ACTINAINASTRUM | 0 | 784 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANKISTRODESMUS,F | 0 | 784 | 0 | 216 | 20 | 0 | 0 | 0 |
| SCENEDESMUS I | 0 | 746368 | 928256 | 1529 | 20 | 0 | 314 | 118 |
| CYCLOTELLA | 0 | 2352 | 784 | 39 | 98 | 0 | 0 | 0 |
| SELENASTRUM | 0 | 0 | 1568 | 0 | 0 | 0 | 0 | 0 |
| PHACOTUS | 0 | 0 | 1568 | 0 | 0 | 0 | 0 | 0 |
| CHLORELLA | 0 | 3920 | 3920 | 118 | 20 | 20 | 0 | 39 |
| CHLAMYDOMONAS | 0 | 0 | 5488 | 39 | 0 | 0 | 0 | 0 |
| FRANCEIA | 0 | 2352 | 0 | 0 | 0 | 0 | 0 | 0 |
| SCENEDESMUS II | 0 | 6272 | 3136 | 0 | 0 | 0 | 0 | 0 |
| NAVICULA | 0 | 6272 | 6272 | 0 | 59 | 20 | 0 | 20 |
| PEDIASTRUM | 0 | 0 | 0 | 0 | 314 | 0 | 0 | 0 |
| SCHROEDERIA | 0 | 1568 | 0 | 0 | 20 | 20 | 137 | 255 |
| CRYPTOMONAS | 0 | 2352 | 0 | 0 | 235 | 725 | 1411 | 1235 |
| GOMPHONEMIA | 0 | 0 | 0 | 0 | 0 | 59 | 78 | 59 |
| TOTAL COUNT, ALL GENERA | 11760 | 779296 | 952560 | 2137 | 1276 | 1020 | 2175 | 2157 |

DATE 7/ 3/75 RUN 94

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 2979 | 13976 | 13328 | 20 | 0 | 0 | 0 | 0 |
| CHLOROBOTRYS | 0 | 0 | 0 | 0 | 39 | 0 | 0 | 0 |
| MICROCYSTIS | 962 | 3136 | 2352 | 196 | 235 | 274 | 1058 | 235 |
| ACTINAINASTRUM | 0 | 0 | 784 | 59 | 0 | 0 | 0 | 0 |
| ANKISTRODESMUS,F | 0 | 784 | 0 | 0 | 0 | 0 | 0 | 0 |
| SCENEDESMUS I | 0 | 493920 | 286944 | 186 | 157 | 0 | 78 | 118 |
| CYCLOTELLA | 0 | 0 | 0 | 255 | 118 | 78 | 39 | 39 |
| RHODOMONAS | 0 | 0 | 0 | 0 | 39 | 118 | 0 | 0 |
| PHACOTUS | 0 | 784 | 784 | 10 | 0 | 0 | 0 | 0 |
| CHLORELLA | 39 | 5488 | 2352 | 49 | 0 | 0 | 20 | 20 |
| CHLAMYDOMONAS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| SCENEDESMUS II | 0 | 7840 | 6272 | 0 | 0 | 0 | 0 | 0 |
| NAVICULA | 0 | 12544 | 8624 | 29 | 39 | 0 | 20 | 0 |
| STEPHANODISCUS | 0 | 784 | 0 | 0 | 0 | 0 | 0 | 0 |
| SCHROEDERIA | 0 | 1568 | 1568 | 59 | 9486 | 9957 | 176 | 196 |
| CRYPTOMONAS | 0 | 0 | 0 | 29 | 1176 | 745 | 372 | 568 |
| GOMPHONEMIA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 510 |
| TREUBARIA | 0 | 0 | 1568 | 0 | 0 | 0 | 0 | 0 |
| TOTAL COUNT, ALL GENERA | 3980 | 537824 | 324576 | 892 | 11271 | 11172 | 1763 | 1706 |

DATE 7/15/75 RUN 98

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 2352 | 163072 | 64288 | 490 | 235 | 0 | 0 | 0 |
| MICROCYSTIS | 18424 | 7056 | 7840 | 882 | 3292 | 902 | 372 | 176 |
| ACTINAINASTRUM | 0 | 0 | 0 | 20 | 0 | 39 | 0 | 0 |
| ANKISTRODESMUS,F | 392 | 4704 | 4704 | 20 | 0 | 0 | 0 | 0 |
| SCENEDESMUS I | 15288 | 489216 | 98000 | 59 | 0 | 196 | 0 | 0 |
| CYCLOTELLA | 2352 | 0 | 0 | 0 | 470 | 157 | 59 | 20 |
| SELENASTRUM | 0 | 0 | 1568 | 0 | 0 | 0 | 0 | 0 |
| PHACOTUS | 0 | 1568 | 0 | 0 | 0 | 0 | 0 | 0 |
| CHLORELLA | 8624 | 4704 | 10976 | 235 | 0 | 78 | 0 | 20 |
| CHLAMYDOMONAS | 0 | 10192 | 4704 | 0 | 0 | 0 | 0 | 0 |
| SCENEDESMUS II | 0 | 0 | 0 | 78 | 0 | 0 | 0 | 0 |
| NAVICULA | 2352 | 74480 | 67424 | 0 | 157 | 0 | 0 | 0 |
| PEDIASTRUM | 6664 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OOCYSTIS | 11760 | 12544 | 0 | 78 | 0 | 2783 | 0 | 0 |

Table C-1. Continued.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| EUGLENOIDS | 0 | 3136 | 0 | 0 | 0 | 0 | 0 | 0 |
| SCHROEDERIA | 1568 | 784 | 0 | 39 | 0 | 78 | 68 | 2979 |
| GEMINELLA | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 |
| CRYPTOMONAS | 7840 | 2352 | 1568 | 0 | 941 | 588 | 372 | 764 |
| GOMPHONEMA | 0 | 0 | 0 | 0 | 2352 | 78 | 69 | 0 |
| CHLOROGONIUM | 7840 | 47040 | 9408 | 0 | 0 | 0 | 0 | 0 |
| UNKNOWN FILAMENT | 0 | 0 | 0 | 0 | 5802 | 196 | 0 | 0 |
| TOTAL COUNT, ALL GENERA | 25868 | 827904 | 250096 | 2019 | 13484 | 5096 | 973 | 3959 |

DATE 7/29/75 RUN 115

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 2744 | 169344 | 156800 | 6664 | 0 | 39 | 49 | 20 |
| MICROCYSTIS | 17444 | 131712 | 134848 | 23128 | 2156 | 392 | 353 | 98 |
| ANKISTRODESMUS.F | 0 | 0 | 6272 | 1960 | 392 | 0 | 0 | 0 |
| SCENEDESMUS I | 392 | 623928 | 479808 | 22344 | 3920 | 0 | 0 | 39 |
| CYCLOTELLA | 0 | 0 | 0 | 784 | 0 | 20 | 69 | 0 |
| PHACOTUS | 0 | 3136 | 392 | 0 | 0 | 0 | 0 | 0 |
| CHLORELLA | 0 | 0 | 0 | 29792 | 4704 | 0 | 0 | 0 |
| CHLAMYDOMONAS | 0 | 9408 | 6272 | 0 | 0 | 0 | 0 | 0 |
| SCENEDESMUS II | 0 | 25088 | 6272 | 5096 | 0 | 0 | 0 | 0 |
| NAVICULA | 0 | 37216 | 72128 | 9016 | 0 | 0 | 0 | 0 |
| OOCYSTIS | 0 | 0 | 0 | 1176 | 0 | 0 | 0 | 0 |
| SCHROEDERIA | 0 | 0 | 0 | 784 | 784 | 39 | 0 | 98 |
| GEMINELLA | 588 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| CRYPTOMONAS | 0 | 0 | 0 | 1176 | 4704 | 392 | 364 | 902 |
| GOMPHONEMA | 0 | 0 | 0 | 0 | 5488 | 59 | 0 | 20 |
| SPIRULINA | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 |
| UNKNOWN FILAMENT | 0 | 0 | 0 | 0 | 0 | 921 | 0 | 0 |
| COSMARIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| TOTAL COUNT, ALL GENERA | 21168 | 1056832 | 862792 | 130768 | 22540 | 1862 | 805 | 1197 |

DATE 7/15/75 RUN 113

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 4704 | 25088 | 37632 | 0 | 39 | 29 | 0 | 10 |
| MICROCYSTIS | 5376 | 68992 | 9408 | 0 | 118 | 216 | 980 | 78 |
| SCENEDESMUS I | 0 | 1254400 | 1009792 | 0 | 1803 | 39 | 39 | 49 |
| CYCLOTELLA | 0 | 0 | 0 | 0 | 196 | 59 | 39 | 29 |
| CHLORELLA | 0 | 0 | 0 | 0 | 196 | 0 | 0 | 0 |
| PHACOTUS | 0 | 0 | 3136 | 0 | 78 | 69 | 0 | 10 |
| SCENEDESMUS II | 0 | 25088 | 25088 | 0 | 78 | 0 | 0 | 0 |
| NAVICULA | 0 | 40768 | 18816 | 0 | 0 | 20 | 255 | 49 |
| EUGLENOIDS | 0 | 12544 | 9408 | 0 | 0 | 10 | 0 | 0 |
| SCHROEDERIA | 0 | 0 | 3136 | 0 | 118 | 0 | 0 | 0 |
| CRYPTOMONAS | 0 | 0 | 0 | 0 | 745 | 206 | 255 | 39 |
| GLOEOTHECE | 0 | 0 | 0 | 0 | 4390 | 29 | 0 | 0 |
| GOMPHONEMA | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 0 |
| CYMBELLA | 0 | 0 | 0 | 0 | 0 | 0 | 137 | 0 |
| SPIRULINA | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 |
| UNKNOWN FILAMENT | 0 | 0 | 0 | 0 | 0 | 0 | 1744 | 0 |
| COSMARIUM | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 |
| CHROOCOCCUS | 57624 | 50176 | 206976 | 0 | 78 | 0 | 0 | 0 |
| LAGERHEIMIA | 0 | 0 | 1568 | 0 | 0 | 0 | 0 | 0 |
| TOTAL COUNT, ALL GENERA | 67424 | 1477056 | 1324960 | 0 | 7957 | 785 | 3449 | 264 |

DATE 8/ 4/75 RUN 120

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 3214 | 68992 | 90944 | 75264 | 20 | 39 | 0 | 0 |
| MICROCYSTIS | 510 | 86672 | 12544 | 64288 | 274 | 2999 | 255 | 13328 |
| ACTINASTRUM | 0 | 0 | 0 | 0 | 39 | 0 | 0 | 0 |
| SCENEDESMUS I | 0 | 1266944 | 1128960 | 1028608 | 2470 | 0 | 1098 | 78 |
| CYCLOTELLA | 39 | 0 | 1568 | 3136 | 157 | 157 | 39 | 0 |

Table C-1. Continued.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| SELENASTRUM | 0 | 0 | 0 | 1568 | 39 | 20 | 0 | 0 |
| PHACOTUS | 0 | 3136 | 0 | 3136 | 0 | 0 | 59 | 78 |
| CHLORELLA | 0 | 25088 | 3136 | 1568 | 392 | 78 | 78 | 0 |
| CHLAMYDOMONAS | 0 | 0 | 6272 | 20224 | 0 | 0 | 0 | 0 |
| SCENEDESMUS I | 0 | 0 | 12544 | 3136 | 78 | 0 | 0 | 0 |
| NAVICULA | 0 | 3136 | 14112 | 6272 | 0 | 274 | 392 | 2430 |
| PEDIASTRUM | 0 | 0 | 0 | 0 | 157 | 333 | 0 | 0 |
| OOCYSTIS | 0 | 6272 | 0 | 0 | 0 | 78 | 0 | 941 |
| EUGLENOIDS | 0 | 18816 | 3136 | 6272 | 0 | 0 | 20 | 78 |
| SCHROEDERIA | 0 | 0 | 4704 | 0 | 39 | 59 | 0 | 0 |
| CRYPTOMONAS | 0 | 0 | 0 | 0 | 235 | 157 | 59 | 0 |
| GLOEOTHECE | 0 | 0 | 4704 | 3136 | 529 | 274 | 0 | 0 |
| GOMPHONEMIA | 0 | 0 | 0 | 0 | 0 | 176 | 0 | 157 |
| CYMBELLA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 78 |
| CHLOROGONIUM | 0 | 0 | 0 | 1568 | 0 | 0 | 0 | 0 |
| SPIRULINA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 78 |
| UNKNOWN FILAMENT | 0 | 0 | 0 | 0 | 137 | 1078 | 0 | 0 |
| COSMARIUM | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 78 |
| TOTAL COUNT, ALL GENERA | 3763 | 1477056 | 1292624 | 1226176 | 4566 | 5370 | 2020 | 17324 |
| DATE 6/19/75 | RUN 127 | | | | | | | |

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 2430 | 125440 | 32928 | 50960 | 0 | 10 | 20 | 10 |
| MICROCYSTIS | 1882 | 62720 | 28224 | 14896 | 314 | 461 | 206 | 20 |
| ANKISTRODESMUS.F | 0 | 3136 | 0 | 0 | 0 | 0 | 0 | 0 |
| SCENEDESMUS I | 1882 | 831040 | 292240 | 431984 | 147 | 0 | 176 | 0 |
| CYCLOTELLA | 0 | 0 | 0 | 0 | 29 | 69 | 0 | 0 |
| PHACOTUS | 0 | 6272 | 0 | 0 | 10 | 0 | 39 | 0 |
| CHLORELLA | 0 | 3136 | 1568 | 3136 | 20 | 29 | 0 | 39 |
| CHLAMYDOMONAS | 0 | 15680 | 7840 | 7056 | 0 | 10 | 20 | 0 |
| SCENEDESMUS II | 0 | 0 | 0 | 1568 | 29 | 0 | 0 | 0 |
| NAVICULA | 0 | 21952 | 4704 | 7840 | 20 | 157 | 39 | 49 |
| STEPHANODISCUS | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 |
| OOCYSTIS | 0 | 196000 | 0 | 0 | 0 | 0 | 0 | 0 |
| EUGLENOIDS | 0 | 12544 | 6272 | 1568 | 0 | 20 | 0 | 0 |
| SCHROEDERIA | 0 | 6272 | 0 | 0 | 0 | 0 | 0 | 0 |
| GEMINELLA | 470 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| CRYPTOMONAS | 0 | 0 | 0 | 0 | 49 | 294 | 78 | 69 |
| GLOEOTHECE | 0 | 0 | 0 | 0 | 88 | 0 | 0 | 0 |
| GOMPHONEMIA | 0 | 0 | 0 | 784 | 147 | 29 | 0 | 0 |
| CYMBELLA | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 |
| MERISMOPEDIA | 0 | 0 | 0 | 12544 | 0 | 0 | 0 | 0 |
| TOTAL COUNT, ALL GENERA | 6664 | 1284192 | 363776 | 532336 | 863 | 1099 | 578 | 197 |
| DATE 6/29/75 | RUN 130 | | | | | | | |

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 2156 | 112896 | 67040 | 4704 | 1176 | 137 | 0 | 0 |
| MICROCYSTIS | 923 | 153664 | 128576 | 65856 | 216 | 745 | 0 | 0 |
| SCENEDESMUS I | 0 | 2237744 | 1905120 | 972160 | 3822 | 0 | 0 | 0 |
| CYCLOTELLA | 0 | 0 | 0 | 0 | 39 | 78 | 0 | 0 |
| SELENASTRUM | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 |
| PHACOTUS | 0 | 9408 | 0 | 0 | 0 | 59 | 0 | 0 |
| CHLORELLA | 0 | 0 | 3136 | 4704 | 59 | 39 | 0 | 0 |
| CHLAMYDOMONAS | 0 | 25088 | 0 | 9408 | 20 | 59 | 0 | 0 |
| SCENEDESMUS II | 0 | 18816 | 21952 | 6272 | 157 | 0 | 0 | 0 |
| NAVICULA | 0 | 43768 | 18816 | 0 | 20 | 255 | 0 | 0 |
| STEPHANODISCUS | 0 | 3136 | 3136 | 0 | 0 | 0 | 0 | 0 |
| EUGLENOIDS | 0 | 25088 | 3136 | 10976 | 0 | 20 | 0 | 0 |
| SCHROEDERIA | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 |
| GEMINELLA | 0 | 0 | 94080 | 134848 | 196 | 353 | 0 | 0 |
| CRYPTOMONAS | 39 | 0 | 1568 | 0 | 0 | 0 | 0 | 0 |

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Table C-1. Continued.

```
     GOMPHONEMIA               0         0         0         0        39       176         0         0
     CHLOROGONIUM              0      3136         0      3136         0         0         0         0
     MERISMOPEDIA              0         0         0     21952        98         0         0         0
     LAGERHEIMIA               0         0         0         0         0        20         0         0
TOTAL COUNT, ALL GENERA     3018   2599744   2226560   1234016      5862      1961       196       196
      DATE   8/25/75     RUN 132

          GENERA        INFLUENT     POND1     POND2     POND3     POND4     POND5     POND6  EFFLUENT
     OSCILLATORIA           3528      3920      3920      1960       784         0         0         0
     MICROCYSTIS           16464    121520     54880     52920     21168     15092     21168     11956
     SCENEDESMUS I          1176   1726760    948640   1105440      1960         0         0         0
     SELENASTRUM               0         0         0         0      1176         0         0         0
     PHACOTUS                  0      3920      3920      1960         0       196         0       196
     CHLAMYDOMONAS             0     27440     39200      7840         0         0         0         0
     SCENEDESMUS II         1568      7840         0      3920         0         0         0         0
     NAVICULA               1960      7840         0      5880      1176      2156      1176       784
     STEPHANODISCUS            0      3920         0      1960         0         0       392         0
     EUGLENOTUS                0     35280         0      9800         0         0         0         0
     SCHROEDERIA               0         0      3920      1960         0         0         0         0
     GEMINELLA                 0    233840    164640    211680         0         0         0         0
     CRYPTOMONAS               0         0      3920         0         0         0         0         0
     GOMPHONEMIA               0         0         0         0         0       196      1568       784
     CHLOROGONIUM              0         0         0      1960         0         0         0         0
     PALMELLA             130536    603680     70560     76440     25480     22540     25480     27852
     MERISMOPEDIA              0         0         0      1960         0         0         0         0
TOTAL COUNT, ALL GENERA   155232   2745760   1293600   1485680     51744     40180     49784     41552
      DATE   9/ 4/75     RUN 135

          GENERA        INFLUENT     POND1     POND2     POND3     POND4     POND5     POND6  EFFLUENT
     OSCILLATORIA              0      9408         0      3920        20         0        29        29
     MICROCYSTIS           34888    328864    611520    203840      1294       725       176       118
     ANKISTRODESMUS,F          0         0         0      1960         0         0         0         0
     SCENEDESMUS I             0   2173112   2587200    995680      1784        20       559        88
     CYCLOTELLA                0         0         0         0         0         0        39         0
     SELENASTRUM               0      3136         0         0         0         0         0         0
     CHLORELLA                 0         0         0         0        39        20         0         0
     CHLAMYDOMONAS             0     25088      7840      7840         0         0         0         0
     SCENEDESMUS II            0     37632     23520     23520         0         0         0         0
     NAVICULA               1176      3136         0         0       118       216        49       108
     SCHROEDERIA               0         0         0      3920         0         0         0         0
     AMPHORA                   0         0         0         0         0         0         0        10
     GEMINELLA                 0    627200    721280    219520        39         0         0         0
     CRYPTOMONAS               0         0         0         0        39        78       127       118
     GLOEOTHECE             1960     12544     11760      3920         0         0         0         0
     GOMPHONEMIA               0         0         0      7840       274        59         0         0
     CYMBELLA                  0         0         0         0         0       353        20        49
     CHLOROGONIUM              0         0      3920         0         0         0         0         0
     SPIRULINA                 0         0         0         0         0         0         0        20
     MICROSPORA                0         0         0         0       862        20         0         0
     PALMELLA              35672    301056    188160    219520         0         0         0         0
     MERISMOPEDIA              0         0         0     15680         0         0         0         0
TOTAL COUNT, ALL GENERA    73696   3578176   4155200   1707160      4469      1491       979       540
      DATE   9/11/75     RUN 136

          GENERA        INFLUENT     POND1     POND2     POND3     POND4     POND5     POND6  EFFLUENT
     OSCILLATORIA           1950      6240      1960      3920         0        39         0        39
     MICROCYSTIS            4095     51480     47040     94080    133280       980       392        78
     SCENEDESMUS I           585   1622400    815360   1536640    305760       823         0         0
     SELENASTRUM               0      4680      1960      1960      3920         0         0         0
     PHACOTUS                  0         0      3920         0         0         0         0         0
     CHLORELLA                 0         0      1960         0         0         0         0         0
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Table C-1. Continued.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CHLAMYDOMONAS | 0 | 0 | 3920 | 1960 | 0 | 0 | 0 | 39 |
| SCENEDESMUS II | 0 | 12480 | 29400 | 11760 | 0 | 0 | 0 | 0 |
| NAVICULA | 0 | 3120 | 0 | 0 | 0 | 157 | 39 | 0 |
| EUGLENOIDS | 0 | 12480 | 7840 | 1960 | 0 | 0 | 0 | 0 |
| SCHROEDERIA | 0 | 3120 | 3920 | 0 | 0 | 39 | 0 | 0 |
| GEMINELLA | 0 | 611520 | 799680 | 893760 | 148960 | 235 | 0 | 39 |
| CRYPTOMONAS | 0 | 0 | 0 | 0 | 0 | 157 | 98 | 157 |
| GLOEOTHECE | 780 | 18720 | 27440 | 27440 | 3920 | 0 | 0 | 0 |
| GOMPHONEMIA | 0 | 0 | 0 | 1960 | 0 | 0 | 0 | 0 |
| CYMBELLA | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 78 |
| TOLYPOTHRIX | 780 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CHLOROGONIUM | 0 | 0 | 1960 | 0 | 0 | 0 | 0 | 0 |
| COSMARIUM | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 0 |
| PALMELLA | 468 | 0 | 5880 | 0 | 0 | 0 | 0 | 0 |
| MERISMOPEDIA | 0 | 0 | 0 | 9800 | 0 | 0 | 0 | 0 |
| TOTAL COUNT, ALL GENERA | 2633 | 2346240 | 1752240 | 2585240 | 595840 | 2508 | 529 | 430 |
| DATE 9/15/75 | RUN 139 | | | | | | | |

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 0 | 14048 | 11760 | 11760 | 0 | 0 | 0 | 0 |
| MICROCYSTIS | 1658 | 18720 | 50960 | 60760 | 54600 | 5292 | 529 | 79 |
| ANKISTRODESMUS.F | 0 | 0 | 0 | 0 | 0 | 196 | 0 | 0 |
| SCENEDESMUS I | 0 | 2364960 | 1599360 | 1944320 | 365040 | 32144 | 0 | 0 |
| PHACOTUS | 0 | 0 | 5880 | 0 | 1560 | 0 | 0 | 0 |
| CHLORELLA | 0 | 0 | 0 | 3920 | 3120 | 0 | 0 | 0 |
| CHLAMYDOMONAS | 0 | 7800 | 3920 | 7840 | 0 | 0 | 0 | 0 |
| SCENEDESMUS II | 0 | 18720 | 11760 | 11760 | 0 | 392 | 0 | 0 |
| NAVICULA | 0 | 1560 | 1960 | 1960 | 0 | 588 | 137 | 99 |
| EUGLENOIDS | 0 | 1560 | 0 | 0 | 0 | 0 | 0 | 0 |
| SCHROEDERIA | 0 | 1560 | 0 | 0 | 0 | 392 | 0 | 0 |
| AMPHORA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| GEMINELLA | 0 | 293280 | 713440 | 3512320 | 402480 | 43904 | 10 | 59 |
| CRYPTOMONAS | 98 | 0 | 0 | 0 | 0 | 0 | 225 | 0 |
| CYMBELLA | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 |
| TOLYPOTHRIX | 5948 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CHLOROGONIUM | 0 | 3120 | 0 | 3920 | 0 | 0 | 0 | 0 |
| COSMARIUM | 0 | 0 | 0 | 0 | 0 | 196 | 10 | 0 |
| PALMELLA | 0 | 12480 | 0 | 0 | 0 | 196 | 10 | 20 |
| MERISMOPEDIA | 0 | 21606 | 0 | 50960 | 6240 | 0 | 0 | 0 |
| TOTAL COUNT, ALL GENERA | 7704 | 2751200 | 2399040 | 5609520 | 833040 | 83360 | 950 | 277 |
| DATE 9/22/75 | RUN 141 | | | | | | | |

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 4312 | 0 | 19600 | 23520 | 11760 | 353 | 78 | 20 |
| MICROCYSTIS | 23523 | 93600 | 133280 | 62720 | 0 | 39 | 39 | 59 |
| ACTINAINASTRUM | 0 | 0 | 0 | 0 | 3920 | 0 | 0 | 0 |
| ANKISTRODESMUS.F | 0 | 3120 | 3920 | 0 | 3920 | 0 | 0 | 0 |
| SCENEDESMUS I | 0 | 2477280 | 3920000 | 1693440 | 415520 | 706 | 78 | 0 |
| PHACOTUS | 0 | 0 | 0 | 3920 | 0 | 0 | 0 | 0 |
| CHLORELLA | 0 | 0 | 3920 | 11760 | 0 | 0 | 0 | 0 |
| CHLAMYDOMONAS | 0 | 18720 | 15680 | 0 | 0 | 0 | 0 | 20 |
| SCENEDESMUS II | 0 | 18720 | 31360 | 35280 | 0 | 0 | 0 | 0 |
| NAVICULA | 0 | 0 | 7840 | 0 | 0 | 0 | 78 | 78 |
| STEPHANODISCUS | 0 | 3120 | 0 | 0 | 0 | 0 | 0 | 0 |
| EUGLENOIDS | 0 | 0 | 0 | 3920 | 0 | 0 | 0 | 0 |
| SCHROEDERIA | 0 | 0 | 3920 | 0 | 0 | 0 | 0 | 0 |
| GEMINELLA | 0 | 37440 | 172480 | 423360 | 121520 | 1137 | 0 | 0 |
| CRYPTOMONAS | 0 | 9360 | 3920 | 3920 | 0 | 157 | 176 | 39 |
| GLOEOTHECE | 0 | 6240 | 11760 | 3920 | 3920 | 0 | 0 | 0 |
| CYMBELLA | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 0 |
| TOLYPOTHRIX | 3528 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table C-1. Continued.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| SPIRULINA | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 |
| PALMELLA | 0 | 6240 | 7840 | 0 | 0 | 0 | 0 | 39 |
| CHROOCOCCUS | 0 | 0 | 0 | 0 | 0 | 0 | 78 | 0 |
| MERISMOPEDIA | 0 | 0 | 15680 | 58800 | 0 | 0 | 0 | 0 |
| LAGERHEIMIA | 0 | 0 | 3920 | 0 | 0 | 0 | 0 | 0 |
| TOTAL COUNT, ALL GENERA | 31360 | 2673840 | 4355120 | 2324960 | 560560 | 2431 | 547 | 255 |

DATE 10/14/75 RUN 147

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 9016 | 1960 | 0 | 19600 | 13720 | 0 | 78 | 0 |
| MICROCYSTIS | 54888 | 107800 | 58800 | 52920 | 74480 | 4704 | 78 | 0 |
| SCENEDESMUS I | 0 | 2156000 | 2460040 | 1085840 | 660520 | 30968 | 39 | 78 |
| CHLAMYDOMONAS | 0 | 5880 | 11760 | 7840 | 0 | 980 | 0 | 0 |
| SCENEDESMUS II | 0 | 7840 | 11760 | 7840 | 15680 | 784 | 0 | 0 |
| NAVICULA | 0 | 1960 | 5880 | 0 | 3920 | 196 | 0 | 59 |
| EUGLENOIDS | 0 | 3920 | 0 | 9800 | 0 | 0 | 0 | 0 |
| SCHROEDERIA | 0 | 0 | 0 | 0 | 7840 | 1960 | 0 | 0 |
| GEMINELLA | 0 | 125440 | 137160 | 74480 | 39200 | 0 | 39 | 0 |
| CRYPTOMONAS | 196 | 7840 | 5880 | 13720 | 3920 | 784 | 0 | 78 |
| GLOEOTHECE | 0 | 0 | 0 | 7840 | 0 | 0 | 0 | 0 |
| TOLYPOTHRIX | 0 | 0 | 19600 | 9800 | 0 | 0 | 0 | 0 |
| CHLOROGONIUM | 0 | 60760 | 88200 | 29400 | 15680 | 0 | 0 | 0 |
| TOTAL COUNT, ALL GENERA | 64100 | 2479400 | 2799080 | 1319080 | 834960 | 40376 | 235 | 215 |

DATE 10/16/75 RUN 149

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 10584 | 3920 | 0 | 11760 | 17640 | 0 | 118 | 0 |
| MICROCYSTIS | 45080 | 148960 | 80360 | 76440 | 117600 | 7644 | 20 | 0 |
| SCENEDESMUS I | 0 | 2195200 | 2932160 | 1520960 | 829080 | 40376 | 59 | 78 |
| CHLAMYDOMONAS | 0 | 7840 | 15680 | 3920 | 0 | 588 | 0 | 0 |
| SCENEDESMUS II | 0 | 7840 | 17640 | 7840 | 31360 | 1568 | 0 | 0 |
| NAVICULA | 0 | 7840 | 0 | 3920 | 0 | 392 | 0 | 39 |
| STEPHANODISCUS | 0 | 0 | 3920 | 0 | 0 | 0 | 0 | 0 |
| EUGLENOIDS | 0 | 15680 | 13720 | 5880 | 0 | 0 | 0 | 0 |
| SCHROEDERIA | 0 | 0 | 0 | 0 | 13720 | 3136 | 0 | 0 |
| GEMINELLA | 0 | 156800 | 174440 | 90160 | 49000 | 0 | 20 | 0 |
| CRYPTOMONAS | 0 | 11760 | 3920 | 5880 | 3920 | 980 | 0 | 39 |
| GLOEOTHECE | 0 | 0 | 0 | 3920 | 0 | 0 | 0 | 0 |
| TOLYPOTHRIX | 0 | 0 | 49000 | 13720 | 0 | 0 | 0 | 0 |
| CHLOROGONIUM | 0 | 88200 | 117600 | 21560 | 0 | 980 | 0 | 0 |
| PALMELLA | 0 | 0 | 0 | 3920 | 0 | 0 | 0 | 0 |
| CHROOCOCCUS | 0 | 0 | 23520 | 15680 | 0 | 0 | 0 | 0 |
| TOTAL COUNT, ALL GENERA | 55664 | 2644040 | 3431960 | 1785560 | 1062320 | 55664 | 217 | 196 |

DATE 10/23/75 RUN 153

| GENERA | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|
| OSCILLATORIA | 392 | 23400 | 0 | 0 | 0 | 0 | 0 | 0 |
| MICROCYSTIS | 13332 | 82320 | 76440 | 131320 | 13720 | 0 | 431 | 98 |
| SCENEDESMUS I | 0 | 2359040 | 2195200 | 1920800 | 638960 | 20 | 0 | 0 |
| PHACOTUS | 0 | 7840 | 0 | 7840 | 0 | 0 | 0 | 0 |
| CHLAMYDOMONAS | 0 | 9800 | 11760 | 5880 | 0 | 0 | 39 | 0 |
| SCENEDESMUS II | 0 | 15680 | 0 | 0 | 0 | 0 | 0 | 0 |
| NAVICULA | 0 | 3920 | 0 | 1960 | 0 | 0 | 0 | 59 |
| EUGLENOIDS | 0 | 3920 | 17640 | 0 | 0 | 0 | 0 | 0 |
| SCHROEDERIA | 0 | 0 | 1960 | 3920 | 0 | 0 | 0 | 0 |
| GEMINELLA | 0 | 313600 | 82320 | 11720 | 33320 | 0 | 39 | 0 |
| CRYPTOMONAS | 0 | 3920 | 11760 | 1960 | 11760 | 0 | 216 | 20 |
| GLOEOTHECE | 588 | 37240 | 0 | 17640 | 0 | 0 | 0 | 0 |
| CHLOROGONIUM | 0 | 27440 | 25480 | 49000 | 0 | 0 | 0 | 0 |
| EPITHEMIA | 0 | 0 | 0 | 0 | 3920 | 0 | 20 | 0 |
| PALMELLA | 25872 | 0 | 0 | 4840 | 0 | 0 | 0 | 0 |

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Table C-1. Continued.

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      MERISMOPEDIA                  0         0      15680         0         0         0         0         0
TOTAL COUNT, ALL GENERA         40184   2834170    3030260   2259880    701680       196       745       196
          DATE  10/30/75      RUN 160

            GENERA           INFLUENT     POND1      POND2     POND3     POND4     POND5     POND6  EFFLUENT
      OSCILLATORIA                392         0          0         0         0         0         0         0
      MICROCYSTIS                   0      1960          0      1960      1960        39         0        20
      ANKISTRODESMUS,F              0      1960       1960         0         0       333         0         0
      SCENEDESMUS I                 0    648920     654640    554680    219520     14622       666         0
      CHLAMYDOMONAS             17444      3920       1960         0      3920       274         0        20
      SCENEDESMUS II                0      7840       3920         0         0       235         0         0
      NAVICULA                      0         0          0         0         0        20         0       118
      CRYPTOMONAS                   0     11720       7840      1960      7840      5147         0       137
      GLOEOTHECE                    0         0       1960         0         0         0         0         0
      EPITHEMIA                     0         0          0         0         0         0         0        20
      NITZSCHIA                     0         0          0         0         0        59         0         0
TOTAL COUNT, ALL GENERA         17836    673320     672280    558600    225400     20729       666       315
          DATE  11/ 5/75      RUN 166

            GENERA           INFLUENT     POND1      POND2     POND3     POND4     POND5     POND6  EFFLUENT
      MICROCYSTIS                 392         0          0         0         0         0         0       118
      ANKISTRODESMUS,F              0         0          0         0         0       196         0         0
      SCENEDESMUS I                 0    299680     397880    237160    119560     16464       314         0
      CHLAMYDOMONAS               196      5880       5880      1960      9800      5096        98         0
      SCENEDESMUS II                0         0          0         0      7840       784         0         0
      NAVICULA                      0         0          0         0      1960         0        39         0
      EUGLENOIDS                    0         0          0      1960      1960       392         0         0
      GEMINELLA                   196         0          0         0         0         0         0         0
      CRYPTOMONAS                   0      5880       7840     11760     15680      5096      1666         0
      EPITHEMIA                     0         0          0         0         0       196         0         0
      NITZSCHIA                     0      1960          0         0         0       196         0         0
TOTAL COUNT, ALL GENERA           784    313400     411600    252840    156800     28420      2117       196
          DATE  11/12/75      RUN 173

            GENERA           INFLUENT     POND1      POND2     POND3     POND4     POND5     POND6  EFFLUENT
      MICROCYSTIS                 588         0          0      1960         0         0        39         0
      ANKISTRODESMUS,F              0         0       1960         0         0         0        59         0
      SCENEDESMUS I               392    362600     352800    168560      1960      7840       412         0
      CHLAMYDOMONAS               392      5880       3920      9800         0      1176        20         0
      NAVICULA                      0         0       1960         0         0       196         0        39
      GEMINELLA                   196         0          0         0         0         0         0        20
      CRYPTOMONAS                 196      9800      13720     17640     21560      1960      2215      6860
      NITZSCHIA                     0         0          0      3920         0         0         0         0
TOTAL COUNT, ALL GENERA          1764    378280     374360    201880     23520     11172      2745      6919
          DATE  11/19/75      RUN 180

            GENERA           INFLUENT     POND1      POND2     POND3     POND4     POND5     POND6  EFFLUENT
      MICROCYSTIS                 392         0          0      1960         0         0         0         0
      ANKISTRODESMUS,F              0         0          0      1960      1960       196         0         0
      SCENEDESMUS I                 0    246960     392000    243040     54880     11584       235        78
      CHLAMYDOMONAS               196      1960       1960      3920         0       980        39        20
      NAVICULA                      0         0          0         0         0         0         0        20
      CRYPTOMONAS                 392      9800       9800     11760      9800      1568     28028     13524
      NITZSCHIA                     0         0          0         0         0       196         0         0
TOTAL COUNT, ALL GENERA           980    258720     403760    262640     66640     14524     28302     13642
          DATE  12/ 3/75      RUN 194

            GENERA           INFLUENT     POND1      POND2     POND3     POND4     POND5     POND6  EFFLUENT
      MICROCYSTIS                 196         0          0         0         0         0         0         0
      ANKISTRODESMUS,F              0         0          0         0         0       196         0         0
      SCENEDESMUS I                 0     19600     152880    117600     78400     23792     26460         0
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Table C-1. Continued.

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     CHLAMYDOMONAS              196        0     5880        0        0     3136     1960       39
     NAVICULA                     0     3920        0        0     1960      784      392        0
     CRYPTOMONAS                  0     9800    11760     3920     9800     8820     9800       98
TOTAL COUNT, ALL GENERA         392    33300   170520   121520    90160    42720    38612      196
        DATE  12/ 9/75     RUN 186

          GENERA           INFLUENT    POND1    POND2    POND3    POND4    POND5    POND6 EFFLUENT
     SCENEDESMUS I                0    72520    74480    70560    60760        0        0    15680
     CHLAMYDOMONAS              784     7840     1960     1960     5880     5880     3920     5880
     NAVICULA                     0        0        0        0        0        0        0     1960
     CRYPTOMONAS               1568     7840     7840     5880    15680     1960    15680    39200
     TRACHELOMONAS                0        0        0        0        0     3920        0        0
     NITZSCHIA                    0        0        0        0     1960        0        0        0
TOTAL COUNT, ALL GENERA        2352    88200    84280    78400    84280    11760    19600    62720
        DATE  12/14/75     RUN 188

          GENERA           INFLUENT    POND1    POND2    POND3    POND4    POND5    POND6 EFFLUENT
     ANKISTRODESMUS.F             0        0        0        0     1960        0        0        0
     SCENEDESMUS I                0    58800    68600    80360    47040    25480    37240     7840
     CHLAMYDOMONAS              588     9800     7840     3920     7840     5880    13720     3920
     NAVICULA                   196        0     1960     3920        0     1960     3920        0
     CRYPTOMONAS               1960    13720     9800     5880     3920     7840     5880     5880
     NITZSCHIA                    0        0        0     1960     3920        0     3920        0
TOTAL COUNT, ALL GENERA        2744    82320    88200    96040    64680    41160    64680    17640
        DATE  12/23/75     RUN 191

          GENERA           INFLUENT    POND1    POND2    POND3    POND4    POND5    POND6 EFFLUENT
     MICROCYSTIS                196     3920        0     1960        0        0        0        0
     ANKISTRODESMUS.F             0        0        0        0     1960        0     1960        0
     SCENEDESMUS I                0    49000    60760    94080    43120    17640    27440    13720
     CHLAMYDOMONAS              980    15680    11760     7840     5880     9800    21560     7840
     NAVICULA                   196        0     3920        0        0     3920        0        0
     CRYPTOMONAS               2352     7840     9800    19600     3920     9800    13720     7840
     NITZSCHIA                    0        0     1960        0        0     1960     3920        0
TOTAL COUNT, ALL GENERA        3724    76440    88200   123480    54880    43120    68600    29400
        DATE  12/31/75     RUN 192

          GENERA           INFLUENT    POND1    POND2    POND3    POND4    POND5    POND6 EFFLUENT
     MICROCYSTIS                980     3920     3920     3920     1960        0     1960        0
     SCENEDESMUS I                0    39200    54880    47040    27440    15680    19600     7840
     CHLAMYDOMONAS              392     3920     5880    27440    13720     9800    11760     3920
     NAVICULA                     0        0        0     1960        0     3920        0     1960
     GEMINELLA                  196        0        0        0        0        0        0        0
     CRYPTOMONAS                588        0     3920    19600    11760     9800    15680     5880
     NITZSCHIA                    0        0        0        0     1960        0        0        0
TOTAL COUNT, ALL GENERA        2156    47040    68600    99960    56840    39200    49000    19600
        DATE   1/ 9/76     RUN 195

          GENERA           INFLUENT    POND1    POND2    POND3    POND4    POND5    POND6 EFFLUENT
     MICROCYSTIS                588     1960        0        0        0        0        0     1960
     SCENEDESMUS I                0     7840    23520        0     7840     7840     5880        0
     CHLAMYDOMONAS              784    39200    23520    13720    41160    19600    27440    11760
     SCENEDESMUS II               0        0        0    15680        0        0        0        0
     NAVICULA                     0     3920        0        0        0     1960        0        0
     CRYPTOMONAS                392     7840    19600    31360    27440    15680    19600     5880
     TRACHELOMONAS                0     5880     7840     1960     5880     3920     1960        0
TOTAL COUNT, ALL GENERA        1764    66640    74480    62720    82320    49000    54880    19600
        DATE   1/17/76     RUN 196

          GENERA           INFLUENT    POND1    POND2    POND3    POND4    POND5    POND6 EFFLUENT
     MICROCYSTIS                980        0        0        0     1960     1960     1960        0
```

Table C-1. Continued.

```
    ANKISTRODESMUS.F            0       1960          0       1960          0          0          0          0
    SCENEDESMUS I               0      13720      23520      31360      15680       7840       3920          0
    CHLAMYDOMONAS             196       5880       5880      15680       9800       7840       5880       7840
    NAVICULA                    0          0          0       3920       1960       1960          0          0
    CRYPTOMONAS               196      13720      25480      19600       9800       7840       5880       5880
    TRACHELOMONAS               0       3920       7840       5880       3920       1960       3920          0
    SPIRULINA                   0       1960          0          0          0          0          0          0
  TOTAL COUNT, ALL GENERA    1372      41160      62720      78400      43120      29400      21560      13720
          DATE   1/21/76    RUN 199

           GENERA        INFLUENT      POND1      POND2      POND3      POND4      POND5      POND6   EFFLUENT
    MICROCYSTIS               784       1960       3920          0       1960       3920       1960       1960
    ANKISTRODESMUS.F            0       1960          0          0       1960          0          0          0
    SCENEDESMUS I               0      19600      23320      43120      25480      11760       1960          0
    CHLAMYDOMONAS             588       9800      11760      17640      17640       5880       5880       3920
    NAVICULA                    0          0          0       3920       1960          0          0          0
    CRYPTOMONAS               588      17640      15680      25480       7840       9800       3920       3920
    TRACHELOMONAS               0       5880       9800      15680       7840       7840          0          0
    NITZSCHIA                   0       1960          0       1960          0          0          0          0
  TOTAL COUNT, ALL GENERA    1960      58800      74480     107800      64680      39200      13720       9800
```

# APPENDIX D

## BACTERIOLOGICAL PERFORMANCE OF EACH POND IN THE CORINNE WASTE STABILIZATION LAGOON SYSTEM

Table D-1. Fecal coliform bacterial performance of each pond in the Corinne Waste Stabilization Lagoon System. Note: 9.6E5 = 9.6 x $10^5$

FECAL COLIFORMS (COLONIES/100 ML)

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 21 | 75 | 9.6E5 | 8.7E3 | 3.2E2 | 1.6E1 | 1.E-1 | 1.E-1 | 1.E-1 | 2.0E0 |
| 1 | 24 | 75 | 4.3E6 | 1.3E6 | 2.1E2 | 1.3E1 | 1.E-1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 1 | 25 | 75 | 1.7E5 | 1.7E6 | 2.1E2 | 1.7E1 | 1.0E0 | 1.E-1 | 1.E-1 | 1.E-1 |
| 1 | 26 | 75 | 1.9E5 | 1.3E6 | 2.3E2 | 2.3E1 | 1.0E0 | 3.0E0 | 1.E-1 | 1.E-1 |
| 1 | 27 | 75 | 2.1E5 | 1.3E6 | 2.5E2 | 1.5E1 | 1.E-1 | 1.3E0 | 1.E-1 | 1.E-1 |
| 1 | 28 | 75 | 4.0E5 | 1.5E6 | 3.2E2 | 2.1E1 | 1.E-1 | 1.0E0 | 1.E-1 | 2.0E0 |
| 1 | 29 | 75 | 5.8E5 | 1.6E6 | 6.5E2 | 2.6E1 | 3.0E0 | 1.0E0 | 1.E-1 | 1.E-1 |
| 1 | 30 | 75 | 2.9E5 | 1.7E6 | 8.9E2 | 4.9E1 | 1.0E0 | 1.3E0 | 1.E-1 | 5.0E0 |
| 1 | 31 | 75 | 6.6E5 | 1.5E6 | 6.3E2 | 3.5E1 | 1.0E0 | 1.E-1 | 1.E-1 | 2.0E0 |
| 2 | 1 | 75 | 3.0E6 | 2.3E6 | 7.6E2 | 6.5E1 | 1.E-1 | 1.E-1 | 1.E-1 | 2.0E0 |
| 2 | 2 | 75 | 2.5E5 | 7.6E3 | 6.7E2 | 1.1E2 | 5.0E0 | 1.E-1 | 2.0E0 | 3.0E0 |
| 2 | 3 | 75 | 3.9E5 | 1.2E6 | 9.4E2 | 1.4E2 | 1.E-1 | 2.0E0 | 1.E-1 | 1.E-1 |
| 2 | 4 | 75 | 5.8E5 | 6.6E3 | 7.2E2 | 1.5E2 | 1.0E1 | 7.0E0 | 1.E-1 | 1.E-1 |
| 2 | 5 | 75 | 5.9E5 | 2.3E6 | 9.0E2 | 1.0E2 | 8.0E0 | 3.0E0 | 1.0E0 | 1.E-1 |
| 2 | 6 | 75 | 3.1E5 | 2.2E6 | 1.3E3 | 1.1E2 | 5.0E0 | 5.0E0 | 2.0E0 | 1.E-1 |
| 2 | 7 | 75 | 7.0E5 | 2.3E6 | 3.2E3 | 2.8E2 | 1.4E1 | 3.0E0 | 1.E-1 | 1.0E0 |
| 2 | 8 | 75 | 5.9E5 | 3.9E6 | 2.5E3 | 3.0E2 | 1.7E1 | 8.0E0 | 1.E-1 | 1.E-1 |
| 2 | 9 | 75 | 2.5E5 | 3.3E6 | 2.2E3 | 4.9E2 | 2.8E1 | 2.0E0 | 1.E-1 | 1.E-1 |
| 2 | 10 | 75 | 5.1E5 | 6.5E6 | 2.6E3 | 2.7E2 | 2.7E1 | 6.0E0 | 1.E-1 | 1.E-1 |
| 2 | 11 | 75 | 2.0E5 | 3.3E6 | 3.4E3 | 6.2E2 | 4.0E1 | 6.0E0 | 4.0E0 | 1.E-1 |
| 2 | 12 | 75 | 2.3E5 | 5.7E6 | 4.2E3 | 7.7E2 | 3.2E1 | 2.0E0 | 2.0E0 | 1.E-1 |
| 2 | 13 | 75 | 1.4E5 | 1.7E6 | 2.1E3 | 3.9E2 | 4.0E1 | 3.0E0 | 1.E-1 | 1.E-1 |
| 2 | 14 | 75 | 3.5E5 | 1.3E6 | 2.4E3 | 6.5E2 | 1.3E2 | 1.0E1 | 1.E-1 | 1.E-1 |
| 2 | 15 | 75 | 1.6E6 | 1.9E6 | 1.9E3 | 1.3E2 | 1.0E2 | 2.0E0 | 1.E-1 | 2.0E0 |
| 2 | 16 | 75 | 4.5E5 | 1.2E6 | 3.8E3 | 2.4E2 | 5.2E1 | 1.E-1 | 1.E-1 | 2.0E0 |
| 2 | 17 | 75 | 7.6E5 | 1.1E6 | 1.9E3 | 5.0E2 | 2.4E2 | 1.E-1 | 1.E-1 | 1.0E1 |
| 2 | 18 | 75 | 4.4E6 | 5.3E3 | 6.0E1 | 2.8E2 | 1.0E1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 2 | 19 | 75 | 0.0E0 | 0.0E0 | 0.0E0 | 0.0E0 | 0.0E0 | 0.0E0 | 0.0E0 | 0.0E0 |
| 2 | 20 | 75 | 6.8E6 | 3.1E3 | 1.7E3 | 7.2E1 | 1.6E1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 2 | 21 | 75 | 1.7E5 | 8.3E2 | 1.2E3 | 1.0E2 | 4.0E0 | 1.E-1 | 1.E-1 | 2.0E0 |
| 2 | 22 | 75 | 1.9E6 | 6.3E3 | 1.5E3 | 3.0E2 | 1.8E1 | 1.E-1 | 1.E-1 | 6.0E0 |
| 2 | 27 | 75 | 2.6E5 | 1.2E3 | 1.1E3 | 3.7E2 | 9.3E1 | 2.0E1 | 6.0E0 | 2.0E0 |
| 2 | 28 | 75 | 2.3E5 | 1.9E3 | 9.2E2 | 3.4E2 | 1.3E2 | 2.9E1 | 1.8E1 | 1.E-1 |
| 3 | 3 | 75 | 2.0E5 | 9.9E3 | 2.9E3 | 6.5E2 | 3.6E2 | 2.3E1 | 4.0E0 | 2.0E0 |
| 3 | 6 | 75 | 1.1E5 | 1.9E6 | 2.6E3 | 7.2E2 | 2.2E2 | 6.2E1 | 1.0E1 | 1.E-1 |
| 3 | 9 | 75 | 9.0E3 | 3.9E3 | 1.5E3 | 2.9E2 | 3.8E1 | 2.0E1 | 2.0E0 | 4.0E0 |
| 3 | 12 | 75 | 1.1E5 | 2.6E3 | 3.2E2 | 4.0E1 | 1.0E1 | 6.0E0 | 1.E-1 | 1.E-1 |
| 3 | 15 | 75 | 6.0E4 | 8.3E3 | 9.6E2 | 6.6E1 | 2.0E0 | 1.E-1 | 1.E-1 | 1.E-1 |
| 3 | 18 | 75 | 1.9E5 | 1.6E6 | 3.7E3 | 5.9E2 | 6.2E1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 3 | 21 | 75 | 3.9E5 | 1.5E6 | 4.2E3 | 5.0E2 | 7.6E1 | 1.E-1 | 2.0E0 | 1.E-1 |
| 3 | 24 | 75 | 2.3E5 | 1.5E6 | 5.9E3 | 1.2E3 | 7.6E1 | 8.0E0 | 1.E-1 | 1.E-1 |
| 3 | 28 | 75 | 6.5E6 | 1.1E6 | 0.0E0 | 1.0E3 | 3.2E2 | 1.9E1 | 2.0E0 | 2.9E0 |
| 3 | 31 | 75 | 9.8E6 | 1.3E6 | 2.5E3 | 8.0E2 | 2.0E2 | 1.6E1 | 1.1E1 | 1.E-1 |
| 4 | 2 | 75 | 1.7E5 | 1.6E6 | 2.1E3 | 7.8E2 | 2.3E2 | 1.6E1 | 1.1E1 | 1.E-1 |
| 4 | 5 | 75 | 2.5E5 | 1.3E6 | 1.2E3 | 4.6E2 | 1.1E2 | 1.3E1 | 1.0E0 | 1.E-1 |
| 4 | 8 | 75 | 5.0E6 | 7.2E3 | 1.0E3 | 1.5E2 | 8.0E0 | 4.0E0 | 4.0E0 | 1.0E0 |
| 4 | 11 | 75 | 2.2E6 | 8.9E3 | 2.6E2 | 2.6E1 | 1.2E1 | 1.2E1 | 1.9E3 | 2.0E0 |
| 4 | 14 | 75 | 5.9E5 | 1.3E3 | 1.0E2 | 8.0E0 | 6.0E0 | 4.0E0 | 1.E-1 | 1.E-1 |
| 4 | 15 | 75 | 3.0E5 | 8.2E3 | 2.2E3 | 2.7E1 | 8.0E0 | 1.6E1 | 1.0E1 | 1.7E1 |
| 4 | 16 | 75 | 8.4E5 | 5.2E3 | 2.0E2 | 3.0E1 | 1.0E1 | 1.7E1 | 2.0E0 | 5.0E0 |
| 4 | 17 | 75 | 8.9E5 | 2.9E3 | 3.4E2 | 1.0E1 | 1.0E0 | 1.6E1 | 8.0E0 | 1.0E0 |
| 4 | 18 | 75 | 5.1E5 | 1.0E3 | 1.3E2 | 2.0E1 | 7.0E0 | 1.2E1 | 2.0E0 | 5.0E0 |
| 4 | 19 | 75 | 8.8E4 | 1.2E3 | 2.4E2 | 4.0E1 | 1.7E1 | 7.0E0 | 1.E-1 | 2.0E0 |
| 4 | 20 | 75 | 1.8E4 | 2.4E3 | 2.5E2 | 1.0E1 | 5.0E0 | 4.0E0 | 1.E-1 | 1.0E0 |
| 4 | 21 | 75 | 2.8E5 | 1.0E3 | 1.1E2 | 4.0E0 | 3.0E0 | 1.0E0 | 1.0E0 | 2.0E0 |
| 4 | 22 | 75 | 6.0E4 | 5.6E3 | 3.4E2 | 1.2E1 | 4.0E0 | 1.4E1 | 1.E-1 | 5.0E0 |
| 4 | 23 | 75 | 2.9E5 | 3.9E3 | 1.4E2 | 4.0E0 | 3.0E0 | 7.0E0 | 1.0E0 | 6.0E0 |
| 4 | 24 | 75 | 1.9E5 | 1.9E3 | 1.0E2 | 1.0E1 | 3.0E0 | 4.0E0 | 1.2E1 | 1.0E1 |
| 4 | 25 | 75 | 1.8E5 | 6.6E3 | 1.5E2 | 8.0E0 | 2.0E0 | 6.3E1 | 5.0E0 | 1.3E1 |
| 4 | 26 | 75 | 4.9E5 | 5.2E3 | 4.0E2 | 2.4E1 | 7.0E0 | 2.2E1 | 7.0E0 | 7.0E0 |
| 4 | 27 | 75 | 5.7E5 | 4.3E3 | 3.1E2 | 2.0E1 | 2.0E0 | 5.0E0 | 1.2E1 | 2.0E0 |
| 4 | 28 | 75 | 2.0E5 | 4.1E3 | 6.0E2 | 3.6E1 | 7.0E0 | 6.0E0 | 6.7E1 | 4.0E0 |
| 4 | 29 | 75 | 3.0E5 | 4.1E3 | 3.7E2 | 4.2E1 | 7.0E0 | 8.0E0 | 7.0E0 | 2.0E0 |
| 4 | 30 | 75 | 8.4E5 | 3.6E3 | 2.1E2 | 4.0E0 | 4.0E0 | 3.0E0 | 2.0E0 | 1.0E0 |
| 5 | 1 | 75 | 3.5E5 | 5.3E3 | 1.3E2 | 1.2E1 | 4.0E0 | 1.2E1 | 1.0E0 | 1.E-1 |
| 5 | 2 | 75 | 2.2E6 | 7.7E3 | 3.2E1 | 2.0E0 | 1.E-1 | 5.0E0 | 1.E-1 | 1.E-1 |
| 5 | 3 | 75 | 3.5E5 | 4.6E3 | 5.6E2 | 9.0E0 | 2.0E0 | 9.0E0 | 1.0E0 | 1.E-1 |
| 5 | 4 | 75 | 2.0E5 | 4.2E3 | 1.4E2 | 1.2E1 | 2.0E0 | 1.0E1 | 1.1E1 | 9.0E0 |
| 5 | 5 | 75 | 3.6E5 | 2.3E3 | 1.0E2 | 4.0E0 | 6.0E0 | 6.0E0 | 1.3E1 | 8.0E0 |
| 5 | 6 | 75 | 1.3E5 | 5.1E3 | 1.1E2 | 8.0E0 | 1.7E1 | 9.0E0 | 1.0E0 | 7.0E0 |
| 5 | 7 | 75 | 2.2E5 | 3.1E3 | 6.8E1 | 1.2E1 | 3.0E0 | 8.0E0 | 4.9E1 | 1.0E1 |
| 5 | 8 | 75 | 3.5E5 | 6.6E3 | 3.7E2 | 2.0E1 | 3.3E1 | 1.6E1 | 5.4E1 | 1.9E1 |
| 5 | 9 | 75 | 4.5E5 | 2.3E3 | 1.4E2 | 1.9E1 | 3.8E1 | 4.0E0 | 5.0E0 | 4.0E0 |
| 5 | 10 | 75 | 6.8E6 | 4.6E3 | 9.2E1 | 6.0E0 | 1.2E1 | 1.3E1 | 1.0E1 | 1.E-1 |
| 5 | 11 | 75 | 1.2E5 | 2.1E3 | 4.4E1 | 7.0E0 | 2.3E1 | 7.0E0 | 1.E-1 | 1.5E1 |
| 5 | 12 | 75 | 2.4E6 | 2.3E3 | 1.8E2 | 7.0E0 | 1.0E1 | 3.0E1 | 3.0E0 | 3.0E1 |
| 5 | 13 | 75 | 5.7E5 | 2.3E3 | 4.0E1 | 1.1E1 | 3.0E0 | 6.0E0 | 3.0E0 | 8.0E0 |
| 5 | 16 | 75 | 2.8E5 | 4.6E2 | 7.0E0 | 1.2E1 | 5.0E0 | 6.0E0 | 1.E-1 | 4.0E1 |
| 5 | 19 | 75 | 9.6E6 | 4.3E6 | 5.0E1 | 8.0E0 | 1.0E1 | 3.0E0 | 1.0E0 | 2.5E1 |
| 5 | 22 | 75 | 1.6E5 | 3.5E3 | 5.6E2 | 1.4E1 | 2.0E0 | 1.E-1 | 1.E-1 | 3.0E0 |
| 5 | 23 | 75 | 1.3E5 | 1.5E3 | 4.2E1 | 4.0E0 | 2.0E0 | 4.0E0 | 1.1E1 | 3.0E0 |
| 5 | 28 | 75 | 5.8E6 | 2.0E3 | 3.4E1 | 1.E-1 | 1.E-1 | 9.0E0 | 9.0E0 | 4.0E0 |
| 5 | 31 | 75 | 1.1E6 | 1.9E2 | 1.0E1 | 1.E-1 | 1.E-1 | 1.0E0 | 1.E-1 | 1.0E0 |
| 6 | 3 | 75 | 2.0E5 | 7.3E3 | 5.0E2 | 1.E-1 | 1.0E0 | 1.2E1 | 3.0E0 | 1.E-1 |
| 6 | 6 | 75 | 2.5E5 | 9.3E1 | 1.0E1 | 1.E-1 | 1.E-1 | 1.0E0 | 1.E-1 | 1.E-1 |
| 6 | 9 | 75 | 3.9E5 | 7.1E3 | 3.0E2 | 1.E-1 | 1.E-1 | 1.E-1 | 1.0E0 | 1.E-1 |
| 6 | 12 | 75 | 1.8E5 | 1.7E3 | 3.2E1 | 2.0E0 | 1.E-1 | 2.0E0 | 1.E-1 | 1.E-1 |
| 6 | 15 | 75 | 1.3E5 | 1.6E3 | 4.0E0 | 1.E-1 | 1.E-1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 6 | 18 | 75 | 6.9E5 | 5.9E3 | 0.0E0 | 8.0E0 | 1.0E0 | 1.E-1 | 1.E-1 | 1.E-1 |
| 6 | 21 | 75 | 2.3E5 | 5.6E3 | 6.3E2 | 2.5E1 | 3.0E0 | 2.0E0 | 1.E-1 | 1.E-1 |
| 6 | 24 | 75 | 8.1E5 | 2.9E3 | 2.4E1 | 1.E-1 | 2.0E0 | 1.0E0 | 1.0E0 | 1.E-1 |
| 6 | 27 | 75 | 3.5E6 | 1.7E3 | 2.5E1 | 3.0E0 | 1.E-1 | 1.0E0 | 1.E-1 | 1.E-1 |
| 6 | 30 | 75 | 3.0E5 | 6.7E2 | 4.9E1 | 1.E-1 | 3.0E0 | 1.E-1 | 1.E-1 | 1.0E0 |
| 7 | 3 | 75 | 6.7E5 | 1.7E3 | 5.8E1 | 3.0E0 | 2.0E0 | 1.0E0 | 3.0E0 | 1.E-1 |
| 7 | 6 | 75 | 8.8E4 | 6.7E2 | 2.4E1 | 1.0E0 | 1.0E0 | 4.0E0 | 1.E- | 3.0E0 |
| 7 | 9 | 75 | 3.6E5 | 1.5E3 | 2.0E1 | 1.0E0 | 1.1E1 | 3.0E0 | 3.0E0 | 1.E-1 |
| 7 | 12 | 75 | 1.2E5 | 2.1E3 | 4.0E1 | 1.E-1 | 1.E- | 1.E-1 | 1.E-1 | 5.0E0 |
| 7 | 15 | 75 | 2.3E5 | 4.9E3 | 1.4E2 | 1.E-1 | 1.0E0 | 2.5E1 | 1.E-1 | 1.0E0 |
| 7 | 16 | 75 | 2.0E6 | 2.3E4 | 6.3E2 | 1.2E1 | 4.0E0 | 9.1E1 | 2.0E0 | 1.E-1 |
| 7 | 17 | 75 | 3.6E5 | 5.7E3 | 1.5E2 | 9.0E0 | 1.0E0 | 3.9E1 | 2.0E0 | 1.2E1 |
| 7 | 18 | 75 | 2.0E5 | 2.6E3 | 8.8E1 | 6.0E0 | 5.0E0 | 6.0E1 | 7.0E0 | 1.1E1 |

Table D-1. (Continued).

FECAL COLIFORMS (COLONIES/100 ML)

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 19 | 75 | 6.7E5 | 7.7E2 | 4.0E1 | 5.0E0 | 1.0E0 | 2.3E1 | 1.0E0 | 1.7E1 |
| 7 | 20 | 75 | 7.8E6 | 8.7E2 | 6.0E0 | 6.0E0 | 1.6E1 | 1.7E2 | 1.E-1 | 2.0E0 |
| 7 | 21 | 75 | 6.2E5 | 1.5E4 | 2.3E1 | 1.0E1 | 1.0E0 | 1.1E2 | 1.E-1 | 1.E-1 |
| 7 | 22 | 75 | 5.6E5 | 1.6E4 | 3.0E2 | 1.2E1 | 7.0E0 | 8.0E0 | 1.E-1 | 1.0E0 |
| 7 | 23 | 75 | 7.1E5 | 1.9E4 | 2.6E2 | 6.0E0 | 5.0E1 | 4.0E0 | 1.E-1 | 1.0E0 |
| 7 | 24 | 75 | 6.7E5 | 2.7E3 | 2.3E2 | 2.0E0 | 1.E-1 | 1.0E0 | 1.0E0 | 1.E-1 |
| 7 | 25 | 75 | 3.0E5 | 1.6E3 | 4.0E1 | 6.0E0 | 1.E-1 | 2.0E0 | 6.0E0 | 1.E-1 |
| 7 | 26 | 75 | 1.0E6 | 9.7E3 | 1.6E1 | 3.0E0 | 2.0E0 | 2.0E0 | 1.E-1 | 1.0E0 |
| 7 | 27 | 75 | 9.6E6 | 1.8E3 | 5.0E1 | 1.5E1 | 1.0E0 | 1.E-1 | 6.0E0 | 3.0E0 |
| 7 | 28 | 75 | 7.7E6 | 2.3E3 | 3.2E1 | 2.1E1 | 3.0E0 | 2.0E0 | 1.0E0 | 1.0E1 |
| 7 | 29 | 75 | 7.6E5 | 1.7E4 | 5.0E2 | 7.6E1 | 1.0E0 | 2.0E0 | 1.E-1 | 1.E-1 |
| 7 | 30 | 75 | 2.6E5 | 1.3E4 | 7.6E2 | 1.5E2 | 9.0E0 | 1.0E0 | 1.E-1 | 1.E-1 |
| 7 | 31 | 75 | 3.0E5 | 1.6E4 | 9.0E2 | 1.1E2 | 1.6E1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 8 | 1 | 75 | 3.2E5 | 6.0E3 | 5.6E2 | 1.0E2 | 1.0E0 | 5.0E0 | 2.0E0 | 1.0E0 |
| 8 | 2 | 75 | 7.0E5 | 5.3E3 | 2.5E2 | 8.0E1 | 2.9E1 | 1.1E1 | 2.0E0 | 1.E-1 |
| 8 | 3 | 75 | 1.5E5 | 1.7E3 | 3.2E1 | 7.2E1 | 1.E-1 | 1.0E0 | 1.E-1 | 1.E-1 |
| 8 | 4 | 75 | 2.6E6 | 3.5E3 | 6.0E1 | 8.0E0 | 1.E-1 | 1.0E0 | 2.0E0 | 1.1E1 |
| 8 | 5 | 75 | 7.2E5 | 2.6E3 | 1.5E2 | 7.6E1 | 1.0E0 | 1.0E0 | 1.E-1 | 2.0E0 |
| 8 | 6 | 75 | 3.6E5 | 3.6E3 | 2.0E2 | 7.2E1 | 1.E-1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 8 | 7 | 75 | 5.6E5 | 3.7E4 | 8.0E2 | 3.0E1 | 2.0E0 | 2.0E0 | 1.E-1 | 2.0E0 |
| 8 | 8 | 75 | 6.6E5 | 9.2E3 | 2.0E2 | 3.0E1 | 1.E-1 | 2.0E0 | 1.E-1 | 1.E-1 |
| 8 | 9 | 75 | 3.0E5 | 6.3E3 | 1.9E2 | 1.2E1 | 2.0E0 | 1.E-1 | 1.E-1 | 1.E-1 |
| 8 | 10 | 75 | 6.7E6 | 2.5E3 | 8.0E1 | 1.2E1 | 1.E-1 | 2.0E0 | 1.E-1 | 1.E-1 |
| 8 | 11 | 75 | 3.7E6 | 3.7E3 | 1.1E2 | 1.0E1 | 1.E-1 | 2.0E0 | 1.E-1 | 1.E-1 |
| 8 | 12 | 75 | 7.6E5 | 1.6E4 | 9.4E2 | 3.2E1 | 1.E-1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 8 | 13 | 75 | 5.3E5 | 1.1E4 | 3.2E2 | 1.8E1 | 1.E-1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 8 | 16 | 75 | 8.8E5 | 5.7E3 | 2.4E2 | 3.2E1 | 4.0E0 | 1.E-1 | 1.E-1 | 1.E-1 |
| 8 | 17 | 75 | 6.2E5 | 1.1E4 | 6.5E2 | 5.4E1 | 1.E-1 | 2.0E0 | 4.0E0 | 1.E-1 |
| 8 | 20 | 75 | 7.8E5 | 9.6E3 | 7.6E2 | 4.0E1 | 1.E-1 | 1.E-1 | 8.0E0 | 1.E-1 |
| 8 | 21 | 75 | 3.3E5 | 7.6E3 | 6.3E2 | 1.0E1 | 1.E-1 | 1.E-1 | 6.0E0 | 1.E-1 |
| 8 | 24 | 75 | 5.6E5 | 8.3E3 | 6.2E2 | 1.0E1 | 1.E-1 | 1.0E0 | 5.0E0 | 1.E-1 |
| 8 | 28 | 75 | 1.0E6 | 1.1E4 | 3.5E2 | 2.0E1 | 1.0E0 | 1.E-1 | 2.0E0 | 1.E-1 |
| 9 | 1 | 75 | 6.0E5 | 1.9E4 | 1.3E3 | 2.6E1 | 1.E-1 | 1.E-1 | 2.0E0 | 1.E-1 |
| 9 | 4 | 75 | 6.5E5 | 5.5E4 | 1.4E3 | 5.0E1 | 4.0E0 | 1.E-1 | 1.0E0 | 1.E-1 |
| 9 | 7 | 75 | 1.6E5 | 3.9E4 | 1.5E3 | 6.6E1 | 1.0E0 | 1.E-1 | 1.E-1 | 1.E-1 |
| 9 | 10 | 75 | 4.9E5 | 3.9E4 | 1.5E3 | 6.0E1 | 1.E-1 | 4.0E0 | 1.E-1 | 1.E-1 |
| 9 | 13 | 75 | 5.1E6 | 2.1E4 | 9.2E2 | 4.4E1 | 8.0E0 | 2.0E0 | 1.E-1 | 1.E-1 |
| 9 | 16 | 75 | 3.1E5 | 2.5E4 | 1.2E3 | 6.2E1 | 1.E-1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 9 | 19 | 75 | 5.2E5 | 3.6E4 | 5.4E2 | 6.4E1 | 1.E-1 | 1.0E0 | 3.5E1 | 1.E-1 |
| 9 | 22 | 75 | 5.0E6 | 5.3E3 | 2.7E2 | 3.0E1 | 1.0E0 | 2.0E0 | 2.0E0 | 2.0E0 |
| 9 | 25 | 75 | 1.3E6 | 9.3E3 | 3.1E2 | 3.4E1 | 1.0E0 | 3.0E0 | 1.0E0 | 1.E-1 |
| 9 | 28 | 75 | 1.3E6 | 2.3E3 | 1.8E2 | 1.0E1 | 1.6E1 | 2.0E0 | 1.E-1 | 1.E-1 |
| 10 | 1 | 75 | 1.7E6 | 1.6E4 | 5.8E2 | 1.0E1 | 1.E-1 | 1.0E0 | 1.E-1 | 1.E-1 |
| 10 | 4 | 75 | 8.6E5 | 3.3E4 | 1.3E3 | 1.6E1 | 1.E-1 | 5.0E0 | 1.E-1 | 1.E-1 |
| 10 | 7 | 75 | 5.1E5 | 2.6E4 | 1.1E3 | 8.0E0 | 6.0E0 | 7.6E1 | 1.E-1 | 1.E-1 |
| 10 | 10 | 75 | 1.9E6 | 2.9E4 | 2.5E3 | 1.3E2 | 2.2E1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 10 | 13 | 75 | 6.0E5 | 3.3E4 | 3.9E3 | 1.1E2 | 2.0E1 | 1.0E0 | 1.E-1 | 1.E-1 |
| 10 | 16 | 75 | 3.1E6 | 2.9E4 | 2.1E3 | 1.0E2 | 4.0E0 | 4.0E0 | 1.E-1 | 1.E-1 |
| 10 | 20 | 75 | 1.3E6 | 5.9E3 | 9.0E2 | 3.6E1 | 4.0E0 | 1.E-1 | 1.E-1 | 1.E-1 |
| 10 | 21 | 75 | 1.2E6 | 1.7E4 | 6.0E2 | 2.0E1 | 1.E-1 | 1.0E0 | 1.E-1 | 5.0E0 |
| 10 | 22 | 75 | 1.0E6 | 1.9E4 | 4.7E2 | 1.6E1 | 1.E-1 | 1.0E0 | 1.0E0 | 1.E-1 |
| 10 | 23 | 75 | 2.6E6 | 2.9E4 | 6.5E2 | 2.4E1 | 1.E-1 | 1.0E0 | 1.E-1 | 1.0E0 |
| 10 | 24 | 75 | 8.1E5 | 3.7E4 | 7.0E2 | 3.6E1 | 8.0E0 | 3.0E0 | 1.0E0 | 1.0E0 |
| 10 | 25 | 75 | 1.6E6 | 2.9E4 | 1.2E3 | 5.6E1 | 4.0E0 | 4.0E0 | 1.E-1 | 1.0E0 |
| 10 | 26 | 75 | 1.3E5 | 1.3E4 | 1.0E3 | 1.4E2 | 4.0E0 | 6.2E1 | 1.E-1 | 1.E-1 |
| 10 | 27 | 75 | 1.7E5 | 1.3E4 | 9.1E2 | 8.0E1 | 2.0E0 | 1.2E1 | 5.0E0 | 4.0E0 |
| 10 | 28 | 75 | 1.1E5 | 8.2E3 | 1.3E3 | 1.0E2 | 4.0E0 | 1.E-1 | 2.0E0 | 1.E-1 |
| 10 | 29 | 75 | 1.1E6 | 2.8E4 | 1.9E1 | 1.0E2 | 1.6E1 | 2.0E0 | 6.0E0 | 2.0E0 |
| 10 | 30 | 75 | 1.3E6 | 2.1E4 | 2.0E3 | 1.5E2 | 1.2E1 | 2.0E0 | 1.E-1 | 9.0E0 |
| 10 | 31 | 75 | 7.1E6 | 2.5E4 | 2.2E3 | 1.3E2 | 1.6E1 | 2.0E0 | 1.0E0 | 1.0E0 |
| 11 | 1 | 75 | 2.9E6 | 1.7E4 | 1.1E3 | 8.4E1 | 1.2E1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 11 | 2 | 75 | 1.5E6 | 1.6E4 | 8.6E2 | 5.6E1 | 8.0E0 | 1.E-1 | 1.0E0 | 2.0E0 |
| 11 | 3 | 75 | 2.2E6 | 1.3E4 | 8.6E2 | 5.2E1 | 1.E-1 | 1.0E0 | 1.0E0 | 1.0E0 |
| 11 | 4 | 75 | 1.1E6 | 9.9E3 | 7.6E2 | 4.0E0 | 2.0E0 | 2.0E0 | 1.0E0 | 1.0E0 |
| 11 | 5 | 75 | 1.0E6 | 8.9E3 | 5.6E2 | 1.6E1 | 2.0E0 | 1.E-1 | 1.0E0 | 1.0E0 |
| 11 | 6 | 75 | 6.5E5 | 9.5E3 | 4.2E2 | 1.6E1 | 2.0E0 | 1.0E0 | 1.E-1 | 2.0E0 |
| 11 | 7 | 75 | 8.4E5 | 8.3E3 | 2.8E2 | 4.0E0 | 6.0E0 | 1.0E0 | 1.E-1 | 2.0E0 |
| 11 | 8 | 75 | 6.7E5 | 4.3E3 | 2.3E2 | 8.0E0 | 2.0E0 | 1.0E0 | 2.0E0 | 3.0E0 |
| 11 | 9 | 75 | 1.2E6 | 2.6E3 | 1.0E2 | 8.0E0 | 1.E-1 | 1.E-1 | 1.E-1 | 1.0E0 |
| 11 | 10 | 75 | 6.0E5 | 8.6E3 | 2.7E2 | 4.0E0 | 6.0E0 | 2.9E0 | 1.E-1 | 1.E-1 |
| 11 | 11 | 75 | 1.5E6 | 1.9E4 | 6.6E2 | 1.6E1 | 1.E-1 | 1.0E0 | 1.E-1 | 1.0E0 |
| 11 | 12 | 75 | 6.5E5 | 1.1E4 | 4.7E2 | 1.2E1 | 6.0E0 | 1.E-1 | 1.E-1 | 1.E-1 |
| 11 | 13 | 75 | 2.1E6 | 1.2E4 | 2.3E2 | 1.2E1 | 2.0E0 | 1.0E0 | 1.E-1 | 1.E-1 |
| 11 | 14 | 75 | 5.0E5 | 8.4E3 | 3.6E2 | 8.0E0 | 4.0E0 | 1.E-1 | 1.0E0 | 1.E-1 |
| 11 | 15 | 75 | 7.4E5 | 8.4E3 | 2.7E2 | 8.0E0 | 2.0E0 | 1.E-1 | 1.0E0 | 4.0E0 |
| 11 | 16 | 75 | 6.0E5 | 6.9E3 | 2.0E2 | 4.0E0 | 6.0E0 | 1.E-1 | 1.E-1 | 6.0E0 |
| 11 | 17 | 75 | 1.5E6 | 8.9E3 | 7.0E2 | 1.E-1 | 4.0E0 | 5.0E0 | 1.E-1 | 3.0E0 |
| 11 | 18 | 75 | 2.6E6 | 1.6E4 | 5.6E2 | 1.E-1 | 6.0E0 | 2.0E0 | 1.E-1 | 3.0E0 |
| 11 | 19 | 75 | 3.4E6 | 1.7E4 | 6.9E2 | 1.2E1 | 4.0E0 | 1.1E1 | 1.E-1 | 1.E-1 |
| 11 | 20 | 75 | 1.3E6 | 1.2E4 | 3.1E2 | 1.6E1 | 1.E-1 | 3.0E0 | 8.0E0 | 2.0E0 |
| 11 | 21 | 75 | 9.7E5 | 1.2E3 | 2.5E2 | 1.E-1 | 2.0E0 | 1.E-1 | 1.E-1 | 1.E-1 |
| 11 | 24 | 75 | 1.6E6 | 7.5E3 | 1.1E2 | 2.4E1 | 1.E-1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 12 | 2 | 75 | 1.6E6 | 7.1E3 | 1.1E3 | 1.2E1 | 2.0E0 | 1.E-1 | 1.E-1 | 1.E-1 |
| 12 | 5 | 75 | 8.1E5 | 1.5E3 | 1.0E2 | 4.0E0 | 2.0E0 | 1.E-1 | 1.E-1 | 1.E-1 |
| 12 | 8 | 75 | 2.2E6 | 2.9E4 | 7.2E2 | 4.0E0 | 1.E-1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 12 | 11 | 75 | 1.2E6 | 4.3E3 | 4.2E2 | 2.0E1 | 1.E-1 | 1.E-1 | 1.0E0 | 1.0E0 |
| 12 | 14 | 75 | 8.0E5 | 2.2E4 | 1.6E3 | 1.1E2 | 4.0E0 | 1.E-1 | 1.E-1 | 1.0E0 |
| 12 | 17 | 75 | 1.0E6 | 1.2E3 | 4.1E2 | 3.2E1 | 1.E-1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 12 | 20 | 75 | 6.0E5 | 1.9E2 | 3.3E1 | 4.0E0 | 1.E-1 | 1.E-1 | 1.E-1 | 1.0E0 |
| 12 | 23 | 75 | 6.0E5 | 2.7E3 | 2.6E2 | 7.2E1 | 1.E-1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 12 | 31 | 75 | 3.4E5 | 6.2E2 | 1.6E2 | 2.0E1 | 1.E-1 | 1.E-1 | 1.E-1 | 1.E-1 |
| 1 | 3 | 76 | 1.7E6 | 1.5E3 | 7.2E1 | 1.0E1 | 2.0E0 | 1.E-1 | 9.0E0 | 1.E-1 |
| 1 | 6 | 76 | 1.3E6 | 5.2E2 | 9.2E1 | 1.4E1 | 1.E-1 | 1.7E2 | 1.E-1 | 1.E-1 |
| 1 | 9 | 76 | 8.4E5 | 6.5E3 | 2.0E2 | 6.0E0 | 1.E-1 | 1.E-1 | 1.E-1 | 1.0E0 |
| 1 | 12 | 76 | 6.5E5 | 6.1E3 | 3.9E2 | 6.2E1 | 2.0E0 | 1.E-1 | 3.0E0 | 1.E-1 |
| 1 | 15 | 76 | 2.1E5 | 1.3E4 | 3.0E2 | 3.0E1 | 2.0E0 | 1.E-1 | 1.E-1 | 1.0E0 |
| 1 | 18 | 76 | 5.6E6 | 3.9E4 | 2.0E2 | 8.0E0 | 1.E-1 | 1.E-1 | 1.E-1 | 1.0E0 |
| 1 | 21 | 76 | 3.2E5 | 1.5E4 | 1.6E3 | 4.4E1 | 2.0E0 | 1.E-1 | 1.E-1 | 1.E-1 |
| 1 | 24 | 76 | 4.7E6 | 4.3E4 | 2.4E3 | 2.0E2 | 4.0E0 | 1.E-1 | 1.E-1 | 1.E-1 |
| 1 | 27 | 76 | 5.2E5 | 4.3E4 | 4.0E3 | 4.4E2 | 2.6E1 | 6.0E0 | 1.E-1 | 1.E-1 |
| 1 | 30 | 76 | 2.0E5 | 2.7E4 | 2.2E3 | 4.4E2 | 4.0E1 | 6.0E0 | 1.0E0 | 1.0E0 |

Table D-2. Fecal streptococci bacterial performance of each pon in the Corinne Waste Stabilization Lagoon System. Note: 3.8E5 = 3.8 x $10^5$.

FECAL STREPTOCOCCI (COLONIES/100 ML)

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 21 | 75 | 3.8E5 | 8.7E3 | 2.9E2 | 9.2E1 | 6.0E0 | 2.5E1 | 4.5E2 | 1.0-1 |
| 1 | 28 | 75 | 1.2E6 | 1.9E4 | 7.4E2 | 9.5E2 | 6.2E2 | 0.0E0 | 3.0E0 | 0.0E0 |
| 2 | 1 | 75 | 2.6E5 | 2.5E4 | 1.0E3 | 4.0E2 | 7.9E2 | 6.9E2 | 1.7E3 | 2.0E3 |
| 2 | 3 | 75 | 1.9E5 | 1.7E4 | 1.2E3 | 5.5E2 | 4.8E2 | 5.4E2 | 1.1E3 | 3.6E2 |
| 2 | 6 | 75 | 1.2E5 | 2.4E3 | 2.2E3 | 9.0E2 | 7.2E2 | 6.3E2 | 1.9E3 | 1.4E2 |
| 2 | 9 | 75 | 1.8E5 | 3.5E4 | 3.1E3 | 7.6E2 | 3.1E2 | 3.2E2 | 2.0E3 | 1.6E1 |
| 2 | 12 | 75 | 1.1E5 | 4.5E4 | 7.1E3 | 0.0E0 | 0.0E0 | 0.0E0 | 0.0E0 | 0.0E0 |
| 2 | 15 | 75 | 1.8E5 | 2.7E4 | 5.5E3 | 8.0E3 | 6.2E3 | 1.1E4 | 1.2E4 | 4.0E3 |
| 2 | 18 | 75 | 1.8E5 | 1.3E4 | 5.2E3 | 6.5E3 | 3.4E3 | 7.4E3 | 1.8E3 | 2.4E2 |
| 2 | 20 | 75 | 7.8E4 | 1.2E4 | 2.5E3 | 8.2E3 | 9.0E2 | 9.2E3 | 1.6E3 | 8.0E1 |
| 2 | 21 | 75 | 2.7E5 | 2.9E3 | 4.6E3 | 1.1E4 | 5.2E2 | 2.1E3 | 3.4E2 | 1.1E2 |
| 2 | 27 | 75 | 2.1E5 | 5.3E3 | 2.4E3 | 4.4E2 | 4.1E2 | 1.5E3 | 4.8E1 | 1.1E2 |
| 3 | 3 | 75 | 5.3E5 | 7.3E3 | 2.0E3 | 1.2E3 | 5.4E2 | 3.3E2 | 3.6E2 | 4.8E2 |
| 3 | 6 | 75 | 1.6E5 | 1.5E4 | 2.8E3 | 1.1E3 | 6.7E2 | 7.4E2 | 3.7E2 | 3.9E2 |
| 3 | 9 | 75 | 5.4E4 | 2.4E4 | 5.0E3 | 7.4E2 | 2.3E2 | 1.4E2 | 1.1E2 | 1.1E2 |
| 3 | 12 | 75 | 1.6E5 | 1.5E4 | 1.0E3 | 5.6E2 | 2.2E2 | 1.5E2 | 8.4E1 | 1.2E2 |
| 3 | 15 | 75 | 5.3E4 | 8.5E3 | 4.5E2 | 5.4E1 | 7.4E1 | 4.2E1 | 4.0E1 | 7.8E1 |
| 3 | 18 | 75 | 4.1E4 | 1.7E4 | 3.0E3 | 5.1E2 | 1.4E2 | 6.4E1 | 4.0E1 | 7.4E1 |
| 3 | 21 | 75 | 2.1E5 | 2.7E4 | 3.3E3 | 5.2E2 | 1.2E2 | 3.2E1 | 1.5E2 | 2.8E1 |
| 3 | 24 | 75 | 3.4E5 | 4.5E4 | 3.7E3 | 4.4E2 | 3.1E2 | 4.0E1 | 6.0E1 | 3.6E1 |
| 3 | 29 | 75 | 1.0E5 | 1.3E4 | 1.6E3 | 8.1E2 | 5.0E2 | 2.5E2 | 2.3E2 | 1.8E2 |
| 3 | 31 | 75 | 5.1E4 | 7.4E3 | 1.3E3 | 4.9E2 | 2.5E2 | 2.1E2 | 1.6E2 | 1.4E2 |
| 4 | 2 | 75 | 1.9E5 | 6.3E3 | 7.2E2 | 3.7E2 | 0.0E0 | 0.0E0 | 1.0E3 | 2.4E2 |
| 4 | 5 | 75 | 3.6E4 | 3.4E3 | 3.1E2 | 1.7E2 | 1.8E2 | 5.8E2 | 4.3E3 | 4.1E2 |
| 4 | 8 | 75 | 1.5E5 | 3.4E3 | 1.2E2 | 1.6E2 | 4.0E2 | 8.0E3 | 3.2E3 | 3.7E2 |
| 4 | 11 | 75 | 1.0E5 | 1.4E3 | 1.1E2 | 1.1E2 | 3.5E2 | 3.0E3 | 2.2E3 | 2.7E2 |
| 4 | 14 | 75 | 1.6E5 | 1.5E3 | 3.6E1 | 4.4E1 | 2.5E2 | 1.4E3 | 7.4E2 | 1.1E3 |
| 4 | 15 | 75 | 1.3E5 | 1.9E3 | 5.4E1 | 6.4E1 | 3.2E2 | 4.3E2 | 8.3E2 | 9.3E2 |
| 4 | 16 | 75 | 4.3E5 | 2.6E3 | 7.2E1 | 5.6E1 | 1.1E2 | 4.6E2 | 2.4E2 | 5.8E2 |
| 4 | 17 | 75 | 5.3E5 | 1.3E3 | 1.9E2 | 8.8E1 | 3.1E2 | 2.2E2 | 9.6E1 | 3.2E2 |
| 4 | 21 | 75 | 7.4E5 | 1.3E3 | 4.0E1 | 7.8E1 | 2.4E1 | 1.2E1 | 5.2E1 | 1.8E2 |
| 4 | 23 | 75 | 8.4E5 | 1.7E3 | 8.4E1 | 3.2E1 | 1.6E1 | 1.5E2 | 2.8E1 | 1.4E2 |
| 4 | 25 | 75 | 1.3E5 | 3.3E3 | 7.2E1 | 8.0E1 | 4.0E0 | 1.3E2 | 3.2E1 | 1.8E2 |
| 4 | 27 | 75 | 2.0E5 | 2.1E3 | 1.0E2 | 2.3E1 | 2.4E1 | 2.4E1 | 7.9E1 | 1.8E2 |
| 4 | 29 | 75 | 6.7E5 | 2.4E3 | 2.2E3 | 1.6E1 | 8.0E0 | 1.1E2 | 9.0E1 | 4.0E1 |
| 5 | 1 | 75 | 1.2E5 | 2.8E3 | 7.2E1 | 8.0E0 | 2.4E1 | 2.4E1 | 2.0E1 | 8.0E0 |
| 5 | 3 | 75 | 2.3E4 | 1.9E3 | 2.5E2 | 1.2E1 | 2.0E1 | 4.0E0 | 1.1E2 | 2.4E1 |
| 5 | 5 | 75 | 2.7E4 | 1.3E3 | 2.2E1 | 3.0E1 | 1.E-1 | 4.0E0 | 2.8E1 | 7.2E1 |
| 5 | 8 | 75 | 9.0E4 | 7.0E2 | 7.4E1 | 4.0E1 | 2.0E1 | 1.2E1 | 1.2E2 | 3.6E1 |
| 5 | 12 | 75 | 8.6E5 | 1.3E3 | 3.6E1 | 8.0E0 | 1.4E2 | 8.0E1 | 4.4E1 | 3.7E1 |
| 5 | 16 | 75 | 1.0E5 | 2.9E2 | 1.2E1 | 1.E-1 | 0.0E0 | 4.0E0 | 1.2E1 | 3.6E1 |
| 5 | 19 | 75 | 1.9E5 | 1.3E4 | 1.2E1 | 8.0E0 | 2.6E1 | 1.0E1 | 9.4E1 | 3.0E1 |
| 5 | 22 | 75 | 5.6E4 | 3.1E3 | 1.2E2 | 1.1E1 | 2.2E1 | [illegible] | 3.3E1 | 8.4E1 |
| 5 | 25 | 75 | 2.1E5 | 1.6E3 | 5.0E1 | 3.0E0 | 1.8E1 | 2.0E0 | 4.0E1 | 3.0E1 |
| 5 | 28 | 75 | 1.7E5 | 7.1E3 | 8.8E1 | 1.0E0 | 4.0E0 | 7.0E0 | 1.5E1 | 1.2E1 |
| 5 | 31 | 75 | 2.7E4 | 2.1E2 | 3.8E1 | 1.0E0 | 2.0E0 | 5.0E0 | 7.0E0 | 1.0E0 |
| 6 | 3 | 75 | 4.1E4 | 3.4E3 | 1.1E2 | 8.0E0 | 1.E-1 | 2.0E0 | 1.7E1 | 5.9E1 |
| 6 | 6 | 75 | 8.1E4 | 1.4E2 | 1.4E1 | 3.0E0 | 1.0E0 | 4.0E0 | 1.7E1 | 1.E-1 |
| 6 | 9 | 75 | 8.6E4 | 1.5E3 | 4.2E1 | 7.0E0 | 7.4E1 | 1.0E0 | 2.3E1 | 9.5E1 |
| 6 | 12 | 75 | 5.5E5 | 4.3E2 | 1.2E1 | 2.0E0 | 1.E-1 | 2.0E0 | 1.9E1 | 1.0E0 |
| 6 | 15 | 75 | 4.0E4 | 8.2E2 | 1.7E1 | 3.0E0 | 1.2E1 | 2.0E0 | 1.E-1 | 2.0E0 |
| 6 | 18 | 75 | 3.8E4 | 2.3E3 | 1.1E2 | 1.7E1 | 1.5E1 | 5.0E0 | 3.0E1 | 3.0E0 |
| 6 | 21 | 75 | 8.7E4 | 9.3E2 | 1.0E2 | 2.9E1 | 1.1E1 | 4.0E0 | 7.7E1 | 1.E-1 |
| 6 | 24 | 75 | 1.0E5 | 8.5E2 | 4.0E1 | 4.0E1 | 5.0E0 | 1.E-1 | 8.0E0 | 2.0E0 |
| 6 | 27 | 75 | 2.5E5 | 5.1E2 | 2.0E1 | 7.0E1 | 6.0E0 | 1.E-1 | 1.0E0 | 2.9E1 |
| 6 | 30 | 75 | 2.3E5 | 4.8E2 | 1.8E2 | 1.4E2 | 3.0E0 | 4.0E0 | 1.0E0 | 5.0E0 |
| 7 | 3 | 75 | 4.1E4 | 3.7E2 | 1.2E2 | 2.6E2 | 3.0E0 | 2.0E0 | 1.2E1 | 5.0E0 |
| 7 | 6 | 75 | 8.0E4 | 1.2E2 | 6.4E1 | 1.9E2 | 1.1E1 | 1.0E0 | 9.0E0 | 6.0E0 |
| 7 | 9 | 75 | 1.0E5 | 2.3E2 | 3.4E1 | 1.4E2 | 1.0E1 | 2.6E1 | 3.0E0 | 8.0E0 |
| 7 | 12 | 75 | 3.9E4 | 1.3E3 | 2.2E1 | 3.0E1 | 1.3E1 | 7.0E0 | 7.0E0 | 6.0E0 |

Table D-2. (Continued).

FECAL STREPTOCOCCI (COLONIES/100 ML)

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 15 | 75 | 5.6E6 | 1.2E3 | 5.0E1 | 2.9E1 | 1.7E1 | 2.4E1 | 1.5E1 | 8.0E0 |
| 7 | 18 | 75 | 3.7E6 | 1.7E3 | 2.6E1 | 3.9E1 | 5.0E0 | 6.7E1 | 2.1E1 | 2.2E1 |
| 7 | 21 | 75 | 2.1E5 | 5.2E3 | 3.6E1 | 5.2E1 | 3.3E1 | 7.2E1 | 2.2E1 | 1.2E1 |
| 7 | 24 | 75 | 7.5E5 | 1.5E2 | 1.0E1 | 2.1E1 | 7.6E1 | 6.9E1 | 3.3E1 | 6.0E0 |
| 7 | 27 | 75 | 2.9E5 | 9.6E2 | 7.0E1 | 4.9E1 | 2.1E2 | 1.1E2 | 2.7E2 | 3.3E1 |
| 7 | 30 | 75 | 8.0E6 | 5.7E3 | 2.0E2 | 1.0E2 | 6.6E1 | 1.0E2 | 1.2E2 | 5.2E1 |
| 8 | 2 | 75 | 1.1E6 | 2.7E3 | 1.4E2 | 1.0E2 | 6.0E1 | 2.1E2 | 1.0E2 | 7.0E1 |
| 8 | 5 | 75 | 1.2E6 | 1.2E3 | 2.1E2 | 1.9E2 | 5.4E1 | 3.0E2 | 2.2E2 | 2.9E2 |
| 8 | 8 | 75 | 3.9E5 | 4.7E3 | 1.9E2 | 0.0E0 | 1.2E2 | 3.5E2 | 2.0E2 | 5.0E2 |
| 8 | 12 | 75 | 3.9E6 | 1.3E4 | 3.7E2 | 5.1E4 | 9.6E1 | 6.0E2 | 1.7E2 | 9.2E2 |
| 8 | 17 | 75 | 7.0E5 | 1.1E6 | 1.4E3 | 3.2E2 | 4.4E1 | 3.0E2 | 8.5E2 | 1.6E2 |
| 8 | 20 | 75 | 1.1E5 | 6.2E3 | 7.1E3 | 2.1E3 | 3.2E1 | 2.4E2 | 2.6E2 | 3.5E2 |
| 8 | 23 | 75 | 5.6E5 | 4.1E3 | 6.0E3 | 1.3E3 | 3.2E1 | 3.2E2 | 2.2E2 | 3.5E2 |
| 8 | 26 | 75 | 6.3E5 | 6.3E3 | 5.9E3 | 2.2E2 | 3.2E1 | 3.7E2 | 1.0E2 | 2.2E2 |
| 8 | 29 | 75 | 3.7E5 | 3.9E3 | 1.1E4 | 6.2E2 | 5.0E1 | 1.0E2 | 2.0E2 | 1.0E2 |
| 9 | 1 | 75 | 2.0E5 | 7.6E3 | 6.7E3 | 1.4E2 | 5.2E1 | 2.0E2 | 2.1E2 | 3.6E2 |
| 9 | 4 | 75 | 6.1E5 | 1.5E4 | 1.0E3 | 2.0E2 | 6.0E1 | 3.0E2 | 3.0E2 | 4.3E2 |
| 9 | 7 | 75 | 7.7E5 | 2.1E4 | 9.0E2 | 5.3E2 | 2.0E1 | 1.5E2 | 1.5E2 | 2.0E2 |
| 9 | 10 | 75 | 9.6E5 | 2.3E4 | 1.2E3 | 3.1E2 | 9.6E1 | 3.2E2 | 2.6E2 | 8.4E1 |
| 9 | 13 | 75 | 5.7E5 | 2.5E4 | 5.3E3 | 0.0E0 | 0.0E0 | 0.0E0 | 3.0E2 | 2.3E2 |
| 9 | 16 | 75 | 3.2E5 | 1.1E4 | 7.6E2 | 1.0E2 | 9.6E1 | 1.9E2 | 4.0E1 | 5.2E1 |
| 9 | 19 | 75 | 7.6E5 | 3.2E3 | 6.6E2 | 1.2E2 | 6.0E1 | 5.2E1 | 8.0E1 | 4.6E1 |
| 9 | 22 | 75 | 3.1E6 | 4.2E3 | 2.5E2 | 1.1E2 | 4.0E1 | 2.0E1 | 3.6E1 | 6.9E1 |
| 9 | 25 | 75 | 2.0E5 | 5.3E3 | 2.7E2 | 1.3E2 | 2.2E1 | 3.4E1 | 8.0E1 | 6.0E1 |
| 9 | 28 | 75 | 2.3E5 | 6.3E3 | 7.6E1 | 1.0E2 | 2.2E1 | 1.6E1 | 3.0E1 | 1.0E1 |
| 10 | 1 | 75 | 1.6E6 | 8.3E0 | 6.6E2 | 9.5E2 | 0.0E0 | 1.5E2 | 1.1E2 | 7.2E1 |
| 10 | 4 | 75 | 4.5E5 | 1.7E4 | 9.4E2 | 5.5E2 | 0.0E0 | 1.3E2 | 1.3E2 | 6.4E1 |
| 10 | 7 | 75 | 5.6E5 | 2.8E4 | 4.4E2 | 7.0E2 | 5.0E2 | 1.1E2 | 1.1E2 | 4.0E1 |
| 10 | 10 | 75 | 1.0E6 | 1.7E4 | 7.1E2 | 1.2E3 | 7.1E2 | 3.2E2 | 2.1E2 | 3.4E1 |
| 10 | 13 | 75 | 3.1E6 | 3.0E4 | 1.6E3 | 9.0E2 | 2.2E3 | 1.7E2 | 1.2E2 | 4.0E1 |
| 10 | 16 | 75 | 2.7E6 | 1.6E4 | 1.4E3 | 5.6E2 | 1.0E3 | 2.6E2 | 1.2E2 | 4.0E1 |
| 10 | 20 | 75 | 2.1E6 | 2.6E3 | 7.0E2 | 6.0E2 | 4.0E2 | 1.4E2 | 2.4E1 | 2.2E1 |
| 10 | 23 | 75 | 1.0E6 | 1.5E4 | 2.0E2 | 4.4E2 | 4.2E2 | 4.0E1 | 2.0E1 | 2.0E1 |
| 10 | 26 | 75 | 1.6E6 | 2.7E4 | 9.4E2 | 5.0E2 | 7.9E2 | 5.6E2 | 3.2E2 | 2.4E1 |
| 10 | 29 | 75 | 6.0E5 | 2.9E4 | 4.6E3 | 2.9E3 | 2.6E3 | 2.4E2 | 3.0E2 | 1.4E2 |
| 11 | 1 | 75 | 8.7E5 | 7.3E3 | 1.1E3 | 1.0E3 | 1.1E3 | 2.3E2 | 1.7E2 | 3.2E1 |
| 11 | 4 | 75 | 3.6E5 | 3.5E3 | 5.6E2 | 5.0E2 | 4.6E2 | 8.0E1 | 6.6E1 | 6.0E1 |
| 11 | 7 | 75 | 6.3E5 | 6.1E3 | 2.0E2 | 2.0E2 | 2.4E2 | 9.6E1 | 8.6E2 | 2.4E1 |
| 11 | 10 | 75 | 8.0E5 | 3.9E3 | 2.1E2 | 2.6E2 | 2.0E2 | 2.0E2 | 7.2E2 | 7.6E1 |
| 11 | 13 | 75 | 9.2E5 | 6.5E3 | 1.5E2 | 3.0E2 | 3.1E2 | 4.0E1 | 3.6E2 | 8.0E1 |
| 11 | 16 | 75 | 5.2E5 | 4.1E3 | 2.7E2 | 4.6E2 | 8.3E2 | 1.7E2 | 1.3E2 | 1.2E2 |
| 11 | 19 | 75 | 1.5E6 | 3.6E3 | 3.0E2 | 3.2E2 | 4.6E2 | 1.2E2 | 2.2E2 | 1.0E2 |
| 11 | 23 | 75 | 6.0E5 | 2.6E3 | 1.7E2 | 1.0E2 | 3.2E2 | 2.5E2 | 1.1E2 | 6.0E1 |
| 11 | 26 | 75 | 3.9E5 | 4.9E3 | 1.7E2 | 2.1E2 | 4.0E1 | 2.0E1 | 1.4E2 | 7.2E1 |
| 12 | 2 | 75 | 1.6E6 | 1.3E4 | 6.2E2 | 1.7E3 | 1.2E2 | 6.6E2 | 1.3E2 | 6.4E1 |
| 12 | 5 | 75 | 5.6E5 | 2.9E3 | 2.2E2 | 2.6E2 | 5.3E2 | 4.6E2 | 2.6E2 | 1.6E2 |
| 12 | 8 | 75 | 1.7E6 | 6.7E3 | 2.0E2 | 1.0E2 | 9.6E1 | 5.2E1 | 4.0E1 | 3.2E1 |
| 12 | 11 | 75 | 4.3E5 | 5.9E3 | 3.3E2 | 8.4E1 | 2.4E1 | 5.2E1 | 4.0E0 | 3.2E1 |
| 12 | 16 | 75 | 5.9E5 | 1.7E4 | 2.4E3 | 9.0E2 | 5.6E2 | 8.6E2 | 3.1E2 | 3.2E2 |
| 12 | 17 | 75 | 1.2E6 | 1.5E3 | 5.0E2 | 1.1E2 | 1.4E2 | 2.0E2 | 5.0E1 | 4.0E1 |
| 12 | 20 | 75 | 3.0E5 | 1.9E2 | 1.1E2 | 8.0E1 | 7.0E1 | 3.0E1 | 1.E-1 | 4.0E0 |
| 12 | 31 | 75 | 6.1E5 | 1.5E3 | 2.0E2 | 3.2E1 | 2.4E1 | 5.2E1 | 4.0E0 | 6.0E0 |
| 1 | 3 | 76 | 1.9E6 | 3.6E3 | 8.4E1 | 3.2E1 | 0.0E0 | 4.0E0 | 1.E-1 | 1.0E1 |
| 1 | 5 | 76 | 9.6E5 | 9.6E2 | 2.0E2 | 1.6E2 | 1.2E1 | 0.0E0 | 1.E-1 | 1.0E1 |
| 1 | 9 | 76 | 5.3E5 | 7.3E3 | 1.6E2 | 4.0E1 | 1.2E1 | 1.2E1 | 1.2E1 | 2.0E0 |
| 1 | 12 | 76 | 9.2E5 | 1.7E4 | 5.0E2 | 6.0E1 | 0.0E0 | 2.0E1 | 1.9E2 | 1.6E1 |

Table D-3. Total coliform bacterial performance for each pond in the Corinne Waste Stabilization Lagoon System.

TOTAL COLIFORMS (MPN/100 ML) DATA FROM LAB

NS = NO SAMPLE, ND = NO DATA

| MO | DA | YR | INFLUENT | POND1 | POND2 | POND3 | POND4 | POND5 | POND6 | EFFLUENT |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 3 | 75 | >2300000 | 230000 | 93000 | 930 | 430 | 430 | 2300 | 930 |
| 2 | 9 | 75 | >2300000 | 930000 | 9300 | 9300 | 2300 | 930 | 430 | 930 |
| 2 | 20 | 75 | >23000000 | 75000 | 21000 | 4300 | 930 | 430 | 930 | <230 |
| 2 | 27 | 75 | >230000 | 43000 | 23000 | 9300 | 2300 | 930 | 2300 | <230 |
| 3 | 3 | 75 | 930000 | 43000 | NS | 9300 | 9300 | 1500 | 4300 | 430 |
| 3 | 6 | 75 | 750000 | 150000 | 43000 | 15000 | 4300 | 1500 | 4300 | 430 |
| 3 | 10 | 75 | 2300000 | 430000 | <2300 | 43000 | NS | 1100 | 4300 | 430 |
| 3 | 17 | 75 | NS | 21000 | 23000 | 2300 | 930 | 4300 | 4300 | 430 |
| 3 | 24 | 75 | 2300000 | 930000 | 23000 | 39000 | 43000 | 4300 | 43000 | 43 |
| 3 | 31 | 75 | 930000 | 4300000 | 93000 | 23000 | 230000 | 1500 | 23000 | 230 |
| 4 | 2 | 75 | 9300000 | 230000 | 93000 | 43000 | 7500 | 430 | <230 | 230 |
| 4 | 8 | 75 | 12000000 | 93000 | 4300 | 2300 | 930 | 4300 | 210 | 200 |
| 4 | 14 | 75 | 2300000 | 23000 | 4300 | 4300 | 430 | 930 | 930 | 150 |
| 4 | 21 | 75 | 9300000 | 43000 | 930 | 930 | 430 | 430 | 430 | 430 |
| 4 | 23 | 75 | 2300 | 9300 | 4300 | 150 | 930 | 150 | 75 | 75 |
| 4 | 29 | 75 | NS | NS | 9300 | 2300 | 93 | >2300 | 120 | NS |
| 5 | 5 | 75 | 4300000 | 9300 | 9300 | NS | 930 | 43 | 150 | >2300 |
| 5 | 9 | 75 | >2300000 | >23000 | 2100 | <23 | 1500 | 15000 | 200 | 930 |
| 5 | 12 | 75 | 4300000 | NS | 930 | 210 | 430 | 430 | 230 | 930 |
| 5 | 19 | 75 | >2400000 | >24000 | 2300 | 930 | 930 | 930 | 930 | >2400 |
| 5 | 22 | 75 | 23000000 | 93000 | 4300 | 430 | NS | 23 | NS | 43 |
| 5 | 28 | 75 | 23000000 | 93000 | 430 | 75 | 9 | 23 | 75 | 93 |
| 6 | 3 | 75 | 1500000 | 93000 | 2300 | 43 | 4 | 9 | 23 | <3 |
| 6 | 9 | 75 | 4300000 | 43000 | 9300 | 230 | 230 | 43 | 210 | 23 |
| 6 | 12 | 75 | 2300000 | 23000 | 2300 | 230 | 43 | NS | 23 | 23 |
| 6 | 18 | 75 | 2300000 | 93000 | 2300 | 23 | 93 | 4 | 210 | 43 |
| 6 | 24 | 75 | 2300000 | 7500 | 4300 | 43 | 150 | 23 | 43 | 23 |
| 6 | 30 | 75 | 2300000 | 4300 | 2300 | 93 | 23 | 75 | 930 | 43 |
| 7 | 9 |  | 930000 | 230000 | 930 | 15 | 23 | 23 | <30 | 9 |
| 7 | 15 | 75 | >2300000 | 93000 | 2100 | 230 | 23 | 230 | 75 | 23 |
| 7 | 17 | 75 | 4300000 | 43000 | 750 | 230 | >2300 | 75 | <3 | 930 |
| 7 | 21 | 75 | 23000000 | 230000 | 150 | 93 | <23 | 210 | 93 | >2300 |
| 7 | 30 | 75 | 930000 | 230000 | 4300 | 230 | 230 | 75 | 9 | 93 |
| 8 | 5 | 75 | ND | 43000 | 2300 | 930 | >2300 | 4300 | 23 | 930 |
| 8 | 11 | 75 | 230000000 | 93000 | 93000 | 1500 | 210 | 750 | 28 | 200 |
| 8 | 16 | 75 | 4300000 | 23000 | 23000 | <23 | >23000 | 640 | 430 | >2300 |
| 8 | 29 | 75 | 4300000 | ND | 4300 | 150 | 23 | 230 | 230 | 930 |
| 9 | 10 | 75 | 230000000 | <23000 | 15000 | 2300 | 23 | 75 | 29 | 43 |
| 9 | 16 | 75 | >2300000 | 230000 | 4300 | 230 | 93 | >2300 | 150 | 43 |
| 9 | 22 | 75 | >23000000 | 430000 | 2300 | 430 | 150 | 4300 | 4300 | 210 |
| 10 | 7 | 75 | 9300000 | 430000 | 14000 | 4300 | ND | 4300 | ND | 75 |
| 10 | 28 | 75 | 9300000 | 93000 | 4300 | 2300 | 2300 | 230 | 230 | 75 |
| 11 | 20 | 75 | 9300000 | 230000 | 4300 | 2300 | 27 | 23 | 23 | 23 |
| 12 | 8 | 75 | 2300000 | ND | ND | 930 | 230 | 75 | ND | 430 |
| 12 | 11 | 75 | 930000 | >2300 | 4300 | 230 | ND | 43 | ND | 150 |
| 12 | 17 | 75 | 43000000 | 7500 | 15000 | 430 | 230 | >2400 | 430 | 93 |
| 12 | 23 | 75 | 9300000 | 23000 | 4300 | 430 | 93 | 93 | <30 | 4 |
| 1 | 6 | 76 | 43000000 | 4300 | 1400 | 2300 | 93 | 930 | 430 | 150 |
| 1 | 12 | 76 | 23000000 | 93000 | 2300 | 2300 | 430 | 2300 | 93 | 110 |
| 1 | 15 | 76 | 9300000 | 230000 | ND | 430 | ND | 430 | ND | 93 |
| 1 | 21 | 76 | >230000 | 930000 | ND | 430 | ND | 4300 | ND | ND |
| 1 | 27 | 76 | 9300000 | >2300000 | >230000 | 4300 | 430 | 150 | 93 | 43 |

# APPENDIX E

## CLIMATOLOGICAL INFORMATION COLLECTED DURING THE STUDY OF THE CORINNE WASTE STABILIZATION LAGOON SYSTEM

Table E-1. Climatological data for the Corinne Waste Stabilization Lagoon System.

WEATHER DATA

TEMP (DEGREES FAHRENHEIT), PRECIP AND EVAP (INCHES),
WIND (MILES/DAY), RADIATION (LANGLEYS/DAY), T=TRACE

| MO | DA | YR | AIR TEMPERATURE MAX | AIR TEMPERATURE MIN | PRECIP | EVAP | WIND | PAN TEMPERATURE MAX | PAN TEMPERATURE MIN | SOLAR RADIATION |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 75 | 21 | 1 | | | | | | 102.1 |
| 1 | 2 | 75 | 26 | 12 | T | | | | | 179.0 |
| 1 | 3 | 75 | 30 | 1 | | | | | | 162.0 |
| 1 | 4 | 75 | 33 | 13 | T | | | | | 101.9 |
| 1 | 5 | 75 | 32 | 17 | | | | | | 156.2 |
| 1 | 6 | 75 | 37 | 27 | .99 | | | | | 106.5 |
| 1 | 7 | 75 | 35 | 25 | .03 | | | | | 177.0 |
| 1 | 8 | 75 | 36 | 25 | .80 | | | | | 60.5 |
| 1 | 9 | 75 | 30 | 12 | .04 | | | | | 133.7 |
| 1 | 10 | 75 | 27 | 8 | .08 | | | | | 193.1 |
| 1 | 11 | 75 | 23 | 4 | | | | | | 254.6 |
| 1 | 12 | 75 | 18 | -8 | | | | | | 100.5 |
| 1 | 13 | 75 | 25 | 3 | | | | | | 190.5 |
| 1 | 14 | 75 | 26 | 6 | | | | | | 257.1 |
| 1 | 15 | 75 | 29 | 2 | | | | | | 157.1 |
| 1 | 16 | 75 | 32 | 19 | | | | | | 341.0 |
| 1 | 17 | 75 | 37 | 15 | | | | | | 208.6 |
| 1 | 18 | 75 | 41 | 27 | | | | | | 190.9 |
| 1 | 19 | 75 | 35 | 6 | | | | | | 245.1 |
| 1 | 20 | 75 | 38 | 9 | | | | | | 200.0 |
| 1 | 21 | 75 | 34 | 20 | | | | | | 200.7 |
| 1 | 22 | 75 | 29 | 5 | | | | | | 262.0 |
| 1 | 23 | 75 | 33 | 10 | | | | | | 241.4 |
| 1 | 24 | 75 | 38 | 26 | .02 | | | | | 32.0 |
| 1 | 25 | 75 | 47 | 34 | | | | | | 150.2 |
| 1 | 26 | 75 | 44 | 31 | | | | | | 71.3 |
| 1 | 27 | 75 | 32 | 12 | | | | | | 250.9 |
| 1 | 28 | 75 | 28 | 15 | .01 | | | | | 131.1 |
| 1 | 29 | 75 | 22 | 5 | | | | | | 223.1 |
| 1 | 30 | 75 | 25 | 7 | | | | | | 201.3 |
| 1 | 31 | 75 | 29 | 15 | .10 | | | | | 104.6 |
| 2 | 1 | 75 | 40 | 16 | | | | | | 311.7 |
| 2 | 2 | 75 | 41 | 23 | | | | | | 272.0 |
| 2 | 3 | 75 | 42 | 30 | | | | | | 152.5 |
| 2 | 4 | 75 | 38 | 27 | .08 | | | | | 191.4 |
| 2 | 5 | 75 | 35 | 16 | .02 | | | | | 156.2 |
| 2 | 6 | 75 | 30 | 5 | | | | | | 331.6 |
| 2 | 7 | 75 | 42 | 21 | | | | | | 76.3 |
| 2 | 8 | 75 | 45 | 28 | T | | | | | 192.1 |
| 2 | 9 | 75 | 41 | 31 | .38 | | | | | 27.5 |
| 2 | 10 | 75 | 41 | 32 | .10 | | | | | 122.7 |
| 2 | 11 | 75 | 43 | 28 | | | | | | 376.0 |
| 2 | 12 | 75 | 43 | 31 | | | | | | 134.9 |
| 2 | 13 | 75 | 45 | 35 | .06 | | | | | 65.1 |
| 2 | 14 | 75 | 43 | 31 | .15 | | | | | 177.9 |
| 2 | 15 | 75 | 41 | 29 | | | | | | 350.1 |
| 2 | 16 | 75 | 33 | 20 | T | | | | | 111.9 |
| 2 | 17 | 75 | 32 | 21 | | | | | | 375.5 |
| 2 | 18 | 75 | 35 | 18 | T | | | | | 107.2 |
| 2 | 19 | 75 | 37 | 21 | | | | | | 192.3 |
| 2 | 20 | 75 | 37 | 22 | .23 | | | | | 253.4 |
| 2 | 21 | 75 | 25 | 9 | | | | | | 403.3 |
| 2 | 22 | 75 | 27 | 5 | | | | | | 305.9 |
| 2 | 23 | 75 | 36 | 11 | | | | | | 434.5 |
| 2 | 24 | 75 | 39 | 11 | | | | | | 467.4 |
| 2 | 25 | 75 | 37 | 15 | | | | | | 444.1 |
| 2 | 26 | 75 | 43 | 15 | | | | | | 435.5 |
| 2 | 27 | 75 | 43 | 29 | .07 | | | | | 109.0 |
| 2 | 28 | 75 | 49 | 32 | T | | | | | 163.6 |
| 3 | 1 | 75 | 52 | 30 | | | | | | 301.1 |
| 3 | 2 | 75 | 55 | 32 | | | | | | 305.0 |
| 3 | 3 | 75 | 53 | 29 | | | | | | 410.5 |
| 3 | 4 | 75 | 53 | 26 | | | | | | 294.4 |
| 3 | 5 | 75 | 56 | 27 | | | | | | 317.5 |
| 3 | 6 | 75 | 56 | 38 | .42 | | | | | 169.6 |
| 3 | 7 | 75 | 51 | 38 | .08 | | | | | 209.6 |
| 3 | 8 | 75 | 57 | 39 | T | | | | | 305.7 |
| 3 | 9 | 75 | 51 | 31 | .05 | | | | | 237.6 |
| 3 | 10 | 75 | 45 | 32 | .61 | | | | | 236.3 |
| 3 | 11 | 75 | 47 | 30 | | | | | | 351.5 |
| 3 | 12 | 75 | 47 | 27 | | | | | | 437.2 |
| 3 | 13 | 75 | 49 | 29 | | | | | | 292.7 |
| 3 | 14 | 75 | 52 | 32 | .03 | | | | | 316.6 |
| 3 | 15 | 75 | 49 | 26 | | | | | | 505.0 |
| 3 | 16 | 75 | 46 | 31 | .12 | | | | | 86.1 |
| 3 | 17 | 75 | 41 | 18 | .10 | | | | | 485.4 |
| 3 | 18 | 75 | 55 | 32 | .01 | | | | | 182.0 |
| 3 | 19 | 75 | 65 | 45 | | | | | | 375.0 |
| 3 | 20 | 75 | 60 | 37 | T | | | | | 231.5 |
| 3 | 21 | 75 | 48 | 34 | | | | | | 237.0 |
| 3 | 22 | 75 | 52 | 31 | .50 | | | | | 31.7 |
| 3 | 23 | 75 | 42 | 25 | .02 | | | | | 340.4 |
| 3 | 24 | 75 | 47 | 31 | .06 | | | | | 164.6 |
| 3 | 25 | 75 | 46 | 36 | 1.08 | | | | | 50.1 |
| 3 | 26 | 75 | 37 | 21 | .67 | | | | | 377.0 |
| 3 | 27 | 75 | 29 | 14 | | | | | | 386.2 |
| 3 | 28 | 75 | 30 | 12 | | | | | | 604.4 |
| 3 | 29 | 75 | 37 | 14 | | | | | | 556.0 |
| 3 | 30 | 75 | 47 | 27 | T | | | | | 598.6 |
| 3 | 31 | 75 | 45 | 32 | .01 | | | | | 320.2 |
| 4 | 1 | 75 | 38 | 24 | T | | 89 | | | 484.5 |
| 4 | 2 | 75 | 45 | 22 | | | 106 | | | 593.6 |
| 4 | 3 | 75 | 53 | 32 | | | 151 | | | 335.5 |
| 4 | 4 | 75 | 53 | 35 | T | | 59 | | | 140.5 |
| 4 | 5 | 75 | 59 | 38 | | | 120 | | | 453.5 |
| 4 | 6 | 75 | 53 | 32 | .11 | | 113 | | | 184.6 |
| 4 | 7 | 75 | 60 | 28 | .11 | | 121 | | | 320.6 |
| 4 | 8 | 75 | 43 | 27 | T | | 109 | | | 313.5 |
| 4 | 9 | 75 | 48 | 28 | | | 77 | | | 310.2 |

$^{o}C = 0.555 (^{o}F - 32)$

1 inch = 25 mm

1 mile = 1.609 km

1 Langley = 1 gram calorie/$cm^2$

Table E-1. Continued.

WEATHER DATA

TEMP (DEGREES FAHRENHEIT), PRECIP AND EVAP (INCHES),
WIND (MILES/DAY), RADIATION (LANGLEYS/DAY), T=TRACE

| | | | AIR TEMPERATURE | | | | | PAN TEMPERATURE | | SOLAR |
|---|---|---|---|---|---|---|---|---|---|---|
| MO | DA | YR | MAX | MIN | PRECIP | EVAP | WIND | MAX | MIN | RADIATION |
| 4 | 10 | 75 | 55 | 32 | | | 60 | | | 696.9 |
| 4 | 11 | 75 | 56 | 33 | | | 120 | | | 633.5 |
| 4 | 12 | 75 | 59 | 31 | | | 110 | | | 645.0 |
| 4 | 13 | 75 | 59 | 20 | | | 67 | | | 616.6 |
| 4 | 14 | 75 | 59 | 33 | T | | 112 | | | 299.5 |
| 4 | 15 | 75 | 57 | 39 | T | | 123 | | | 254.5 |
| 4 | 16 | 75 | 52 | 35 | .31 | | 136 | | | 338.9 |
| 4 | 17 | 75 | 62 | 31 | .76 | | 50 | | | 73.1 |
| 4 | 18 | 75 | 67 | 27 | .12 | | 70 | | | 366.7 |
| 4 | 19 | 75 | 56 | 36 | | | 87 | | | 350.7 |
| 4 | 20 | 75 | 53 | 39 | | | 52 | | | 390.9 |
| 4 | 21 | 75 | 65 | 36 | .01 | | 46 | | | 609.9 |
| 4 | 22 | 75 | 62 | 44 | T | | 61 | | | 616.0 |
| 4 | 23 | 75 | 56 | 36 | .33 | .17 | | 75 | 38 | 253.5 |
| 4 | 24 | 75 | 67 | 33 | | .16 | | 69 | 40 | 612.5 |
| 4 | 25 | 75 | 66 | 32 | .40 | .24 | | 60 | 38 | 96.5 |
| 4 | 26 | 75 | 66 | 31 | .05 | .09 | | 56 | 36 | 462.6 |
| 4 | 27 | 75 | 63 | 32 | .21 | .05 | | 56 | 38 | 142.6 |
| 4 | 28 | 75 | 63 | 30 | .04 | .10 | | 67 | 36 | 420.2 |
| 4 | 29 | 75 | 66 | 30 | .10 | .03 | | 54 | 37 | 241.3 |
| 4 | 30 | 75 | 55 | 30 | .02 | .13 | | 64 | 38 | 524.2 |
| 5 | 1 | 75 | 61 | 32 | | .25 | | 71 | 41 | 740.5 |
| 5 | 2 | 75 | 64 | 34 | | .16 | | 70 | 44 | 624.2 |
| 5 | 3 | 75 | 72 | 43 | | .35 | | 73 | 40 | 673.5 |
| 5 | 4 | 75 | 60 | 32 | .45 | .29 | 142 | 71 | 38 | 381.2 |
| 5 | 5 | 75 | 67 | 29 | .05 | .05 | 67 | 56 | 37 | 536.4 |
| 5 | 6 | 75 | 67 | 31 | .03 | .11 | 69 | 55 | 37 | 226.8 |
| 5 | 7 | 75 | 66 | 36 | .32 | .04 | 46 | 52 | 39 | 173.9 |
| 5 | 8 | 75 | 59 | 40 | .12 | .07 | 80 | 60 | 41 | 341.9 |
| 5 | 9 | 75 | 67 | 38 | | .19 | 29 | 72 | 40 | 505.4 |
| 5 | 10 | 75 | 72 | 41 | | .18 | 65 | 78 | 48 | 717.3 |
| 5 | 11 | 75 | 74 | 47 | | .29 | 36 | 80 | 54 | 650.6 |
| 5 | 12 | 75 | 60 | 40 | | .20 | 89 | 78 | 43 | 265.1 |
| 5 | 13 | 75 | 71 | 38 | | .21 | 38 | 78 | 46 | 736.1 |
| 5 | 14 | 75 | 81 | 41 | | .18 | 22 | 83 | 53 | 741.0 |
| 5 | 15 | 75 | 85 | 49 | | .31 | 32 | 85 | 57 | 736.9 |
| 5 | 16 | 75 | 84 | 48 | | .33 | 57 | 81 | 55 | 577.8 |
| 5 | 17 | 75 | 81 | 51 | | .37 | 67 | 85 | 56 | 605.3 |
| 5 | 18 | 75 | 77 | 42 | | .30 | 35 | 88 | 53 | 688.6 |
| 5 | 19 | 75 | 70 | 35 | .07 | .30 | 69 | 77 | 40 | 255.5 |
| 5 | 20 | 75 | 63 | 32 | .37 | .05 | 100 | 70 | 35 | 182.6 |
| 5 | 21 | 75 | 56 | 33 | .12 | .12 | 107 | 63 | 38 | 526.3 |
| 5 | 22 | 75 | 56 | 37 | .13 | .14 | 79 | 66 | 41 | 390.8 |
| 5 | 23 | 75 | 65 | 40 | .03 | .16 | 71 | 67 | 47 | 170.5 |
| 5 | 24 | 75 | 71 | 46 | .03 | .18 | 123 | 73 | 45 | 540.2 |
| 5 | 25 | 75 | 63 | 28 | | .29 | 111 | 72 | 38 | 795.6 |
| 5 | 26 | 75 | 67 | 30 | | .22 | 33 | 73 | 45 | 672.1 |
| 5 | 27 | 75 | 67 | 36 | | .20 | 60 | 72 | 50 | 540.3 |
| 5 | 28 | 75 | 60 | 42 | | .23 | 66 | 72 | 40 | 696.2 |
| 5 | 29 | 75 | 72 | 39 | | .24 | 77 | 79 | 46 | 760.3 |
| 5 | 30 | 75 | 75 | 39 | | .31 | 63 | 80 | 51 | 750.1 |
| 5 | 31 | 75 | 78 | 41 | | .20 | 39 | 81 | 57 | 702.5 |
| 6 | 1 | 75 | 82 | 46 | | .33 | 32 | 85 | 59 | 718.6 |
| 6 | 2 | 75 | 79 | 49 | .05 | .24 | 31 | 86 | 60 | 357.2 |
| 6 | 3 | 75 | 78 | 52 | .13 | .21 | 54 | 76 | 55 | 438.3 |
| 6 | 4 | 75 | 73 | 42 | .02 | .23 | 50 | 77 | 51 | 722.5 |
| 6 | 5 | 75 | 80 | 44 | | .26 | 34 | 85 | 55 | 750.3 |
| 6 | 6 | 75 | 88 | 51 | | .26 | 40 | 87 | 60 | 740.8 |
| 6 | 7 | 75 | 86 | 52 | | .42 | 48 | 86 | 60 | 546.3 |
| 6 | 8 | 75 | 71 | 48 | .10 | .34 | 76 | 83 | 52 | 760.3 |
| 6 | 9 | 75 | 66 | 43 | .11 | .27 | 60 | 79 | 50 | 521.1 |
| 6 | 10 | 75 | 71 | 46 | | .42 | 78 | 81 | 48 | 723.2 |
| 6 | 11 | 75 | 77 | 42 | | .13 | 44 | 79 | 46 | 740.2 |
| 6 | 12 | 75 | 85 | 49 | | .28 | 34 | 84 | 57 | 593.5 |
| 6 | 13 | 75 | 83 | 52 | | .36 | 36 | 85 | 61 | 662.1 |
| 6 | 14 | 75 | 82 | 55 | | .32 | 44 | 84 | 60 | 751.8 |
| 6 | 15 | 75 | 85 | 51 | T | .35 | 38 | 86 | 61 | 666.2 |
| 6 | 16 | 75 | 83 | 57 | | .27 | 47 | 85 | 57 | 630.8 |
| 6 | 17 | 75 | 70 | 53 | | .39 | 57 | 74 | 52 | 565.8 |
| 6 | 18 | 75 | 66 | 45 | .42 | .16 | 65 | 71 | 48 | 335.8 |
| 6 | 19 | 75 | 61 | 43 | .50 | .13 | 70 | 63 | 47 | 459.3 |
| 6 | 20 | 75 | 67 | 42 | T | .08 | 44 | 74 | 49 | 604.8 |
| 6 | 21 | 75 | 69 | 51 | .22 | .26 | 50 | 75 | 56 | 462.9 |
| 6 | 22 | 75 | 78 | 48 | | .25 | 47 | 83 | 57 | 753.1 |
| 6 | 23 | 75 | 83 | 51 | | .25 | 36 | 86 | 58 | 680.5 |
| 6 | 24 | 75 | 84 | 61 | | .39 | 74 | 86 | 57 | 659.1 |
| 6 | 25 | 75 | 76 | 43 | .14 | .20 | 102 | 78 | 48 | 349.1 |
| 6 | 26 | 75 | 76 | 41 | | .19 | 35 | 82 | 50 | 793.3 |
| 6 | 27 | 75 | 82 | 45 | | .28 | 19 | 89 | 58 | 773.1 |
| 6 | 28 | 75 | 82 | 47 | | .33 | 39 | 90 | 56 | 762.0 |
| 6 | 29 | 75 | 89 | 50 | | .30 | 17 | 93 | 60 | 754.2 |
| 6 | 30 | 75 | 90 | 50 | | .34 | 19 | 98 | 61 | 761.3 |
| 7 | 1 | 75 | 91 | 59 | | .38 | 44 | 91 | 60 | 776.1 |
| 7 | 2 | 75 | 96 | 51 | | .30 | 12 | 93 | 63 | 749.2 |
| 7 | 3 | 75 | 92 | 62 | T | .24 | 29 | 94 | 67 | 530.9 |
| 7 | 4 | 75 | 89 | 58 | | .26 | 16 | 95 | 65 | 731.3 |
| 7 | 5 | 75 | 92 | 60 | | .34 | 20 | 98 | 68 | 721.3 |
| 7 | 6 | 75 | 95 | 61 | | .34 | 23 | 98 | 70 | 729.4 |
| 7 | 7 | 75 | 97 | 62 | | .33 | 12 | 100 | 72 | 732.7 |
| 7 | 8 | 75 | 97 | 69 | | .40 | 27 | 101 | 71 | 726.5 |
| 7 | 9 | 75 | 96 | 67 | | .30 | 16 | 100 | 72 | 656.7 |
| 7 | 10 | 75 | 96 | 61 | | .33 | 21 | 101 | 70 | 682.9 |
| 7 | 11 | 75 | 86 | 62 | T | .40 | 25 | 99 | 70 | 436.8 |
| 7 | 12 | 75 | 87 | 65 | T | .18 | 21 | 98 | 71 | 404.8 |
| 7 | 13 | 75 | 87 | 63 | | .27 | 28 | 102 | 68 | 706.5 |
| 7 | 14 | 75 | 92 | 61 | | .31 | 22 | 95 | 68 | 692.1 |
| 7 | 15 | 75 | 92 | 61 | | .36 | 72 | 95 | 66 | 722.7 |
| 7 | 16 | 75 | 90 | 60 | | .44 | 44 | 91 | 63 | 510.8 |
| 7 | 17 | 75 | 88 | 59 | | .26 | 23 | 98 | 63 | 562.9 |

Table E-1. Continued.

WEATHER DATA

TEMP (DEGREES FAHRENHEIT), PRECIP AND EVAP (INCHES),
WIND (MILES/DAY), RADIATION (LANGLEYS/DAY), T=TRACE

| MO | DA | YR | AIR TEMPERATURE MAX | AIR TEMPERATURE MIN | PRECIP | EVAP | WIND | PAN TEMPERATURE MAX | PAN TEMPERATURE MIN | SOLAR RADIATION |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 18 | 75 | 88 | 67 |  | .19 | 23 | 94 | 66 | 750.7 |
| 7 | 19 | 75 | 92 | 58 |  | .33 | 8 | 97 | 68 | 537.6 |
| 7 | 20 | 75 | 93 | 61 |  | .31 | 5 | 98 | 70 | 704.9 |
| 7 | 21 | 75 | 93 | 61 |  | .34 | 20 | 96 | 65 | 699.2 |
| 7 | 22 | 75 | 91 | 62 |  | .36 | 29 | 96 | 65 | 636.5 |
| 7 | 23 | 75 | 92 | 55 |  | .36 | 12 | 96 | 63 | 711.5 |
| 7 | 24 | 75 | 95 | 57 |  | .34 | 29 | 97 | 67 | 733.9 |
| 7 | 25 | 75 | 95 | 56 |  |  |  |  |  | 700.8 |
| 7 | 26 | 75 | 97 | 57 |  | .65 | 21 | 98 | 56 | 704.6 |
| 7 | 27 | 75 | 98 | 56 |  | .18 | 9 | 97 | 70 | 688.6 |
| 7 | 28 | 75 | 95 | 66 |  | .40 | 26 | 100 | 70 | 686.5 |
| 7 | 29 | 75 | 93 | 65 | .32 | .39 | 65 | 96 | 69 | 322.9 |
| 7 | 30 | 75 | 86 | 58 | .05 | .23 | 67 | 88 | 62 | 593.3 |
| 7 | 31 | 75 | 79 | 67 | .29 | .27 | 52 | 85 | 51 | 655.5 |
| 8 | 1 | 75 | 88 | 48 |  | .30 | 20 | 87 | 55 | 711.5 |
| 8 | 2 | 75 | 85 | 48 |  | .27 | 10 | 91 | 60 | 711.5 |
| 8 | 3 | 75 | 91 | 48 |  | .28 | 8 | 94 | 62 | 737.1 |
| 8 | 4 | 75 | 94 | 51 |  | .29 | 12 | 95 | 62 | 733.6 |
| 8 | 5 | 75 | 97 | 53 |  | .26 | 8 | 94 | 68 | 573.6 |
| 8 | 6 | 75 | 97 | 58 |  | .29 | 11 | 95 | 69 | 677.6 |
| 8 | 7 | 75 | 92 | 69 |  | .50 | 55 | 97 | 62 | 700.2 |
| 8 | 8 | 75 | 88 | 63 |  | .27 | 8 | 95 | 60 | 697.4 |
| 8 | 9 | 75 | 92 | 53 |  | .31 | 13 | 94 | 62 | 689.6 |
| 8 | 10 | 75 | 92 | 58 |  | .30 | 8 | 93 | 67 | 653.3 |
| 8 | 11 | 75 | 91 | 57 |  | .31 | 12 | 94 | 67 | 513.8 |
| 8 | 12 | 75 | 88 | 60 |  | .28 | 26 | 92 | 65 | 477.0 |
| 8 | 13 | 75 | 84 | 55 |  | .27 | 13 | 90 | 62 | 606.6 |
| 8 | 14 | 75 | 85 | 56 |  | .26 | 17 | 91 | 65 | 644.5 |
| 8 | 15 | 75 | 85 | 55 | T | .29 | 27 | 91 | 62 | 548.6 |
| 8 | 16 | 75 | 88 | 51 |  | .29 | 9 | 90 | 63 | 547.0 |
| 8 | 17 | 75 | 90 | 52 |  | .30 | 17 | 91 | 63 | 660.9 |
| 8 | 18 | 75 | 89 | 55 |  | .30 | 13 | 91 | 62 | 655.1 |
| 8 | 19 | 75 | 87 | 52 | T | .33 | 56 | 92 | 60 | 622.5 |
| 8 | 20 | 75 | 81 | 55 |  | .21 | 29 | 78 | 58 | 653.0 |
| 8 | 21 | 75 | 76 | 50 | T | .20 | 23 | 88 | 58 | 649.6 |
| 8 | 22 | 75 | 79 | 56 |  | .17 | 27 | 85 | 60 | 618.7 |
| 8 | 23 | 75 | 85 | 58 |  | .31 | 32 | 87 | 52 | 559.7 |
| 8 | 24 | 75 | 79 | 50 |  | .33 | 42 | 84 | 55 | 644.2 |
| 8 | 25 | 75 | 79 | 39 |  | .22 | 11 | 84 | 51 | 665.4 |
| 8 | 26 | 75 | 89 | 60 |  | .24 | 11 | 90 | 58 | 629.9 |
| 8 | 27 | 75 | 88 | 55 | T | .27 | 10 | 90 | 63 | 656.8 |
| 8 | 28 | 75 | 83 | 53 |  | .33 | 61 | 88 | 57 | 635.5 |
| 8 | 29 | 75 | 82 | 45 |  | .28 | 20 | 84 | 51 | 615.4 |
| 8 | 30 | 75 | 86 | 65 |  | .25 | 7 | 87 | 58 | 632.0 |
| 8 | 31 | 75 | 88 | 51 |  | .26 | 9 | 88 | 51 | 613.7 |
| 9 | 1 | 75 | 88 | 46 |  | .26 | 18 | 90 | 60 | 556.5 |
| 9 | 2 | 75 | 75 | 39 |  | .28 | 41 | 83 | 48 | 632.7 |
| 9 | 3 | 75 | 83 | 61 |  | .20 | 5 | 82 | 55 | 606.3 |
| 9 | 4 | 75 | 83 | 67 |  | .27 | 29 | 85 | 55 | 607.7 |
| 9 | 5 | 75 | 87 | 63 |  | .23 | 13 | 84 | 55 | 612.8 |
| 9 | 6 | 75 | 86 | 63 |  | .23 | 7 | 86 | 58 | 602.4 |
| 9 | 7 | 75 | 88 | 61 |  | .21 | 5 | 88 | 58 | 594.0 |
| 9 | 8 | 75 | 87 | 64 |  | .20 | 4 | 88 | 58 | 588.0 |
| 9 | 9 | 75 | 86 | 66 |  | .19 | 5 | 88 | 62 | 555.7 |
| 9 | 10 | 75 | 82 | 59 | .16 | .17 | 9 | 88 | 55 | 391.2 |
| 9 | 11 | 75 | 85 | 52 |  | .20 | 29 | 90 | 60 | 543.8 |
| 9 | 12 | 75 | 81 | 57 |  | .25 | 44 | 81 | 56 | 529.0 |
| 9 | 13 | 75 | 82 | 48 |  | .21 | 12 | 84 | 60 | 521.2 |
| 9 | 14 | 75 | 82 | 49 |  | .21 | 16 | 85 | 60 | 541.5 |
| 9 | 15 | 75 | 83 | 47 |  | .16 | 5 | 85 | 60 | 543.7 |
| 9 | 16 | 75 | 83 | 52 |  | .22 | 12 | 85 | 60 | 459.1 |
| 9 | 17 | 75 | 79 | 46 |  | .20 | 31 | 83 | 58 | 350.1 |
| 9 | 18 | 75 | 76 | 36 |  | .26 | 35 | 76 | 48 | 527.2 |
| 9 | 19 | 75 | 75 | 36 |  | .19 | 23 | 75 | 45 | 526.7 |
| 9 | 20 | 75 | 78 | 36 |  | .17 | 15 | 74 | 50 | 503.4 |
| 9 | 21 | 75 | 75 | 36 |  | .19 | 15 | 73 | 47 | 507.8 |
| 9 | 22 | 75 | 80 | 40 |  | .13 | 6 | 76 | 50 | 521.7 |
| 9 | 23 | 75 | 81 | 38 |  | .18 | 3 | 78 | 52 | 511.6 |
| 9 | 24 | 75 | 81 | 38 |  | .15 | 4 | 78 | 52 | 501.7 |
| 9 | 25 | 75 | 82 | 36 |  | .16 | 4 | 79 | 53 | 486.6 |
| 9 | 26 | 75 | 78 | 40 |  | .14 | 5 | 78 | 54 | 470.1 |
| 9 | 27 | 75 | 75 | 40 |  | .20 | 14 | 77 | 48 | 487.2 |
| 9 | 28 | 75 | 78 | 34 |  | .13 | 5 | 75 | 50 | 486.2 |
| 9 | 29 | 75 | 78 | 39 |  | .16 | 9 | 75 | 50 | 477.1 |
| 9 | 30 | 75 | 76 | 40 |  | .18 | 16 | 75 | 50 | 473.5 |
| 10 | 1 | 75 | 77 | 36 |  | .16 | 7 | 75 | 51 | 476.8 |
| 10 | 2 | 75 | 79 | 36 |  | .03 | 4 | 75 | 52 | 467.3 |
| 10 | 3 | 75 | 79 | 34 |  | .26 | 6 |  |  | 457.5 |
| 10 | 4 | 75 | 79 | 44 |  | .17 | 20 | 75 | 52 | 426.0 |
| 10 | 5 | 75 | 81 | 39 |  | .18 | 11 | 75 | 51 | 445.1 |
| 10 | 6 | 75 | 81 | 46 |  | .14 | 13 | 75 | 50 | 382.5 |
| 10 | 7 | 75 | 74 | 36 | .45 | .21 | 73 | 72 | 50 | 92.6 |
| 10 | 8 | 75 | 54 | 30 | .33 | .10 | 57 | 73 | 37 | 362.6 |
| 10 | 9 | 75 | 66 | 29 |  |  | 8 |  |  | 408.3 |
| 10 | 10 | 75 | 72 | 38 |  | .18 | 14 | 78 | 40 | 275.7 |
| 10 | 11 | 75 | 65 | 37 | .01 | .10 | 40 | 64 | 48 | 145.2 |
| 10 | 12 | 75 | 50 | 38 | .37 | .03 | 20 | 61 | 43 | 83.6 |
| 10 | 13 | 75 | 51 | 35 | .08 |  |  |  |  | 122.8 |
| 10 | 14 | 75 | 57 | 36 | .05 | .06 | 56 | 57 | 41 | 205.4 |
| 10 | 15 | 75 | 59 | 29 |  | .10 | 7 | 60 | 41 | 373.8 |
| 10 | 16 | 75 | 64 | 30 |  | .06 | 4 | 63 | 44 | 380.0 |
| 10 | 17 | 75 | 66 | 30 |  | .07 | 3 | 67 | 45 | 397.3 |
| 10 | 18 | 75 | 71 | 32 |  | .09 | 4 | 64 | 45 | 365.7 |
| 10 | 19 | 75 | 69 | 33 |  | .06 | 5 | 64 | 45 | 388.9 |
| 10 | 20 | 75 | 70 | 31 |  | .09 | 4 | 64 | 45 | 374.7 |
| 10 | 21 | 75 | 71 | 33 |  | .06 | 10 | 62 | 45 | 367.1 |
| 10 | 22 | 75 | 62 | 30 | .24 | .13 | 49 | 62 | 41 | 40.4 |
| 10 | 23 | 75 | 43 | 26 | .02 | .11 | 111 | 60 | 36 | 163.3 |
| 10 | 24 | 75 | 41 | 18 |  |  | 31 |  |  | 290.0 |

Table E-1. Continued.

WEATHER DATA

TEMP (DEGREES FAHRENHEIT), PRECIP AND EVAP (INCHES),
WIND (MILES/DAY), RADIATION (LANGLEYS/DAY), T=TRACE

| | | | AIR TEMPERATURE | | | | | PAN TEMPERATURE | | SOLAR |
|---|---|---|---|---|---|---|---|---|---|---|
| MO | DA | YR | MAX | MIN | PRECIP | EVAP | WIND | MAX | MIN | RADIATION |
| 10 | 25 | 75 | 62 | 10 | | | 44 | | | 137.9 |
| 10 | 26 | 75 | 56 | 33 | .15 | | 60 | | | 68.1 |
| 10 | 27 | 75 | 69 | 30 | .96 | | 30 | | | 87.0 |
| 10 | 28 | 75 | 56 | 23 | | | 3 | | | 367.9 |
| 10 | 29 | 75 | 63 | 25 | | | 10 | | | 363.7 |
| 10 | 30 | 75 | 63 | 30 | | | 6 | | | 236.0 |
| 10 | 31 | 75 | 56 | 34 | | | 76 | | | 200.1 |
| 11 | 1 | 75 | 55 | 20 | | | | | | 328.9 |
| 11 | 2 | 75 | 57 | 24 | | | | | | 310.5 |
| 11 | 3 | 75 | 62 | 26 | | | | | | 281.6 |
| 11 | 4 | 75 | 63 | 28 | | | | | | 332.2 |
| 11 | 5 | 75 | 61 | 23 | | | | | | 331.5 |
| 11 | 6 | 75 | 61 | 25 | | | | | | 301.0 |
| 11 | 7 | 75 | 53 | 37 | .08 | | | | | 59.9 |
| 11 | 8 | 75 | 67 | 30 | .09 | | | | | 263.4 |
| 11 | 9 | 75 | 63 | 17 | | | | | | 298.9 |
| 11 | 10 | 75 | 69 | 28 | | | | | | 67.9 |
| 11 | 11 | 75 | 62 | 19 | | | | | | 121.1 |
| 11 | 12 | 75 | 66 | 17 | | | | | | 301.9 |
| 11 | 13 | 75 | 50 | 10 | | | | | | 307.7 |
| 11 | 14 | 75 | 51 | 16 | | | | | | 269.6 |
| 11 | 15 | 75 | 57 | 21 | | | | | | 193.0 |
| 11 | 16 | 75 | 59 | 27 | | | | | | 207.3 |
| 11 | 17 | 75 | 67 | 30 | .07 | | | | | 153.4 |
| 11 | 18 | 75 | 56 | 26 | .02 | | | | | 106.9 |
| 11 | 19 | 75 | 60 | 23 | | | | | | 255.6 |
| 11 | 20 | 75 | 53 | 10 | | | | | | 151.9 |
| 11 | 21 | 75 | 57 | 20 | | | | | | 174.5 |
| 11 | 22 | 75 | 59 | 16 | | | | | | 265.7 |
| 11 | 23 | 75 | 39 | 23 | | | | | | 66.0 |
| 11 | 24 | 75 | 66 | 32 | | | | | | 69.2 |
| 11 | 25 | 75 | 66 | 26 | | | | | | 276.7 |
| 11 | 26 | 75 | 31 | 12 | .13 | | | | | 56.3 |
| 11 | 27 | 75 | 36 | 25 | .13 | | | | | 86.9 |
| 11 | 28 | 75 | 35 | 26 | .67 | | | | | 29.6 |
| 11 | 29 | 75 | 28 | 15 | .06 | | | | | 131.3 |
| 11 | 30 | 75 | 30 | 7 | .01 | | | | | 136.0 |
| 12 | 1 | 75 | 62 | 29 | .08 | | | | | 73.1 |
| 12 | 2 | 75 | 68 | 26 | | | | | | 265.6 |
| 12 | 3 | 75 | 63 | 20 | | | | | | 230.6 |
| 12 | 4 | 75 | 63 | 18 | | | | | | 238.1 |
| 12 | 5 | 75 | 65 | 30 | | | | | | 68.0 |
| 12 | 6 | 75 | 52 | 35 | | | | | | 123.2 |
| 12 | 7 | 75 | 65 | 25 | | | | | | 164.1 |
| 12 | 8 | 75 | 67 | 30 | | | | | | 66.0 |
| 12 | 9 | 75 | 69 | 26 | | | | | | 215.3 |
| 12 | 10 | 75 | 69 | 27 | | | | | | 205.0 |
| 12 | 11 | 75 | 67 | 24 | | | | | | 102.9 |
| 12 | 12 | 75 | 61 | 33 | .41 | | | | | 27.0 |
| 12 | 13 | 75 | 32 | 24 | .13 | | | | | 107.1 |
| 12 | 14 | 75 | 28 | 11 | | | | | | 230.2 |
| 12 | 15 | 75 | 32 | 10 | | | | | | 188.0 |
| 12 | 16 | 75 | 40 | 22 | | | | | | 167.9 |
| 12 | 17 | 75 | 33 | 18 | | | | | | 232.9 |
| 12 | 18 | 75 | 37 | 18 | | | | | | 232.8 |
| 12 | 19 | 75 | 37 | 15 | | | | | | 231.2 |
| 12 | 20 | 75 | 30 | 13 | | | | | | 220.2 |
| 12 | 21 | 75 | 29 | 20 | | | | | | 152.3 |
| 12 | 22 | 75 | 27 | 18 | | | | | | 206.2 |
| 12 | 23 | 75 | 29 | 26 | | | | | | 107.7 |
| 12 | 24 | 75 | 32 | 27 | .07 | | | | | 57.5 |
| 12 | 25 | 75 | 37 | 31 | .15 | | | | | 76.4 |
| 12 | 26 | 75 | 37 | 29 | | | | | | 120.6 |
| 12 | 27 | 75 | 37 | 30 | | | | | | 109.2 |
| 12 | 28 | 75 | 36 | 15 | | | | | | 127.2 |
| 12 | 29 | 75 | 33 | 19 | | | | | | 103.6 |
| 12 | 30 | 75 | 31 | 19 | .25 | | | | | 102.0 |
| 12 | 31 | 75 | 30 | 5 | | | | | | 228.5 |
| 1 | 1 | 76 | 23 | 13 | | | | | | |
| 1 | 2 | 76 | 20 | 1 | | | | | | |
| 1 | 3 | 76 | 26 | 11 | | | | | | |
| 1 | 4 | 76 | 28 | 18 | | | | | | |
| 1 | 5 | 76 | 35 | 24 | .42 | | | | | |
| 1 | 6 | 76 | 33 | 11 | | | | | | |
| 1 | 7 | 76 | 29 | 10 | | | | | | |
| 1 | 8 | 76 | 38 | 25 | .12 | | | | | |
| 1 | 9 | 76 | 38 | 29 | | | | | | |
| 1 | 10 | 76 | 39 | 15 | .04 | | | | | |
| 1 | 11 | 76 | 26 | 2 | | | | | | |
| 1 | 12 | 76 | 38 | 20 | .01 | | | | | |
| 1 | 13 | 76 | 32 | 5 | | | | | | |
| 1 | 14 | 76 | 35 | 12 | | | | | | |
| 1 | 15 | 76 | 38 | 22 | | | | | | |
| 1 | 16 | 76 | 45 | 33 | | | | | | |
| 1 | 17 | 76 | 39 | 19 | | | | | | |
| 1 | 18 | 76 | 41 | 17 | | | | | | |
| 1 | 19 | 76 | 38 | 19 | | | | | | |
| 1 | 20 | 76 | 33 | 13 | | | | | | |
| 1 | 21 | 76 | 33 | 10 | | | | | | |
| 1 | 22 | 76 | 30 | 4 | | | | | | |
| 1 | 23 | 76 | 25 | 8 | | | | | | |
| 1 | 24 | 76 | 33 | 19 | | | | | | |
| 1 | 25 | 76 | 34 | 16 | .12 | | | | | |
| 1 | 26 | 76 | 33 | 7 | | | | | | |
| 1 | 27 | 76 | 40 | 14 | | | | | | |
| 1 | 28 | 76 | 66 | 27 | | | | | | |
| 1 | 29 | 76 | 64 | 18 | | | | | | |
| 1 | 30 | 76 | 66 | 20 | | | | | | |
| 1 | 31 | 76 | 64 | 21 | | | | | | |